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NAME OF AUTHOR/*NOM DE L'AUTEUR* DONALD GEORGE HARASYM

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NAME OF SUPERVISOR/*NOM DU DIRECTEUR DE THÈSE* P. J. SMITH

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THE PLANNING OF NEW RESIDENTIAL AREAS IN CALGARY 1944-1973

by

DONALD GEORGE HARASYM ©

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF ARTS

DEPARTMENT OF GEOGRAPHY

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled "The Planning of New Residential Areas in Calgary 1944-1973" submitted by DONALD GEORGE HARASYM in partial fulfillment of the requirements for the degree of Master of Arts.

Supervisor

Date April 25, 1975

ABSTRACT

It is usually assumed in the literature of urban planning that logical and consistent steps are followed in the planning process. In practice, however, it is well known that a rational planning procedure does not always take place.

A study of original planning documents on residential land use planning in the City of Calgary between 1944 and 1973, combined with field surveys of residential areas planned and developed during the same period, reveals that a sequential planning procedure was used at least some of the time. However, at other times inconsistencies in the process are evident.

In structuring the residential environment of Calgary, two design concepts, the neighbourhood unit and the sector, were applied. The application of the neighbourhood unit concept began in part as a result of anticipating needs and defining goals and objectives. Well-planned schools, streets, parks, and shops were found to be needed but an evaluation of the planning process indicates that the location, size, and spacing of these facilities were not always logically decided upon. It was discovered that planners' values and preferences play an important role in

the planning process.

A change from neighbourhood to sector size planning units was largely based on planners' perceptions of what community facilities were required. The planners, in their evaluation, decided that the larger sector could function as a more effective community service area than the smaller neighbourhood unit. This conclusion was based more on the planners' experiences with the inadequacies of the neighbourhood unit than any careful re-evaluation of the concept.

ACKNOWLEDGEMENTS

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INTRODUCTION

> The planning process is a mechanism that seeks the decisions necessary to achieve a certain structure and form to the urban area that will bring the city alive for its residents as a pleasant, rewarding, and exciting place in which to live.[1]

The variety of city structures and urban land use configurations has always appealed to man's imagination, and has encouraged him to seek explanations for their evolution. One rewarding approach to an understanding of city structure has been the study of the planning process. Within the planning process is presumed a sequence of actions; thus, an explanation of physical development is possible if the steps in the planning sequence are understood and their consequences determined. The following elaboration from McLoughlin clarifies the process.[2]

To satisfy changing needs and wants, every individual or group is continually screening the environment to discover where changes are needed. Once the decision is made that changes are required, it must be accepted that the environment needs to be structured. Structuring the environment, though, requires the guidance provided by planning. The first step then, in the planning process is to scan the environment and decide to plan. Step two is the formulation of goals and the identification of objectives to enable planning to have a meaningful course of action. The third step in the planning process is the derivation of possible courses of action to achieve the goals outlined in step two. Here, the planner plays the role of the specialist when he suggests alternative courses of action based on his experience and knowledge. The fourth stage is to compare and evaluate the range of alternatives which has been developed and then select one alternative. This is followed by step five, the taking of action. Since the environment changes as time passes, a review and modification of planning policies and programmes is called for to adapt to changed circumstances. This review can lead to a re-evaluation of alternatives, courses of action, and if necessary, goals.

---

[1] F. Stuart Chapin Jr., "Foundations of Urban Planning," in Werner Z. Hirsch, (ed.), Urban Life and Form, Holt, Rinehart and Winston Inc., New York, 1963, p. 245.

[2] J. Brian McLoughlin, Urban and Regional Planning: A Systems Approach, Faber and Faber, London, 1969, pp. 92-103.

Altshuler's study of the interrelationships between the twin cities of St. Paul and Minneapolis and Meyerson and Banfield's investigation of the selection of public housing sites in Chicago are valuable examples where planning has been studied as a process.[3]

In the broadest sense, the central focus of this thesis is the planning process. More specifically, it is concerned with the planning process that has been followed in those residential areas of Calgary that have been developed during the last 25 years. It is designed to describe how residential planning goals were identified, the alternative courses of action that were considered, the decisions that were made, and what occurred in the follow-through. The last step is of particular importance because, from the moment a decision was made, evaluation began which, in turn, often produced a new sequence with a change of goals, alternatives, and decisions.

From an early stage in the thesis research, it was apparent that there have been changes in planning philosophy in Calgary, with some re-evaluation by planners of their goals and objectives, particularly with respect to new residential development. Four distinct stages in residential design are evident. During the first period, before 1948, the gridiron pattern was the norm. In the second phase, from 1948 to 1954, the basic gridiron pattern continued to be used but with significant modifications, the most important being the inclusion of curvelinear street designs, centrally located schools and parks, and neighbourhood shopping centres. These changes forecast the extensive use of the neighbourhood unit concept during the next period, from 1954 to 1963. This concept was outlined by Clarence Perry in the 1920s; he defined it as "that area which embraces all public facilities and conditions required by the average family for its comfort and proper development within the vicinity of the dwelling."* Central in Perry's mind was the development of a housing environment which would support the stability of the individual and the family. To achieve this objective, Perry suggested that new areas should be limited in size and focused on a centrally located elementary school. In addition, each residential area or neighbourhood unit should have well-defined boundaries, adequate park space and shopping facilities, and an internal street system that is safe, attractive, and structured to the anticipated traffic flow patterns.

---

[3] Alan A. Altshuler, The City Planning Process, Cornell University Press, Ithaca, N.Y., 1965, and, Martin Meyerson and Edward C. Banfield, Politics, Planning, and the Public Interest, Collier - Macmillan Ltd., London, 1955.

In the fourth period, after 1963, another design concept was used, the sector. The sector concept incorporated most of the neighbourhood unit principles but was applied over a much larger planning area. Rather than centering on an elementary school, the sector is organized around a sector centre which usually contains a large shopping centre, a high school, high density housing, and community facilities such as libraries and health clinics.

---

* Clarence A. Perry, Housing for the Machine Age, Russell Sage Foundation, New York, 1939, p. 50.

From the use of all of these design concepts, it can be inferred that environment has a controlling influence over the well-being of city residents. Chapin reflects this view by implying that effective planning will make a city a pleasant, rewarding, and exciting place in which to live. It goes beyond the scope of this thesis to determine whether this goal has been achieved in Calgary's residential areas, but an understanding of the planning process is a necessary step towards this end.

METHODS OF STUDY

The thesis relies heavily on the minutes of the three planning bodies most responsible for planning in the city: the Town Planning Commission (1944-1951), the Technical Planning Board, which existed from 1951 to 1963, and the Calgary Municipal Planning Commission which replaced it in 1963. Other information sources included the City Clerk's files, the City Planning Department's reports and files, provincial planning laws, municipal bylaws, newspaper reports, air photographs, field surveys, and interviews with land developers and city officials. These sources yielded a huge volume of detailed information and made it impossible to consult a number of other sources that might also have been pertinent. These include the city council minutes, the minutes and files of the Calgary Regional Planning Commission, and the City Commissioners' files and minutes. These sources could be considered when future research is undertaken on Calgary's residential planning.

One other difficulty was encountered during the study - early subdivision files could not be located. It appears as though these files were either misplaced or destroyed, possibly during one of the City Planning Department's frequent moves. As a result, primary data on the early neighbourhood units was not available but, fortunately, enough related information was obtained from the City Clerk's files to provide a basic understanding of the planning which occurred during the early years of the study period.

OUTLINE OF STUDY

The thesis opens in chapter one with an outline of the major events which led up to the creation of the neighbourhood unit concept, continues with an analysis of the concept itself, and concludes with a description of several examples in various parts of the world where the neighbourhood idea was employed.

With the background to the neighbourhood unit established, the discussion moves on to chapter two to a review of the historical development of Calgary with emphasis on those factors which have had an influence on residential planning principles.

Chapter three is an examination of the first use of neighbourhood unit principles in the city. In the period 1948 to 1954, rather than allowing development to continue on the well-established gridiron pattern of subdivision, planners began to apply some neighbourhood unit principles. One residential area planned during this period is examined in detail.

After 1954, planning principles and procedures became much more well-defined. The development of planning controls is recounted in chapter four, while the residential planning experience of the period from 1954 to 1963 is studied in chapter five. It was during this period that the neighbourhood unit concept was applied most fully. The advantages and disadvantages associated with its use are analyzed and the chapter is then concluded with a case study of one area developed during the period.

In the period from 1963 to 1973, the emphasis in planning was placed on large-scale and comprehensive developments. In chapter six, the implementation and evolution of the sector idea is reviewed.

CHAPTER I

THE NEIGHBOURHOOD UNIT CONCEPT - ITS FOUNDATIONS AND EARLY APPLICATIONS

To better understand the evolution of residential planning principles in Calgary, it is necessary to begin by tracing the historical development of the most influential residential design idea, the neighbourhood unit concept. This chapter, therefore, opens with a brief review of the origins of town planning and the neighbourhood unit concept, follows with a description of Clarence Perry's principles, and concludes with some examples of the use of neighbourhood unit principles. By setting the concept within an historical context, and by providing illustrations of its applications, a clearer perception of its objectives is possible.

HISTORICAL DEVELOPMENT

The history of cities is often an account of overcrowding, exploitation, poverty, slums, crime, segregation, and other social ills. The rapid growth of urban areas, primarily since industrialization began in the eighteenth century, increased the number of such problems and aroused a concern for their improvement which led, in turn, to an interest in city structure. Social problems could be solved in part, some suggested, by controlling the size and design of cities. This movement to improve social conditions led to the beginning of town planning as it is known today: the neighbourhood unit concept was a step in this evolution.

Briefly, a neighbourhood unit is the drawing area of an elementary school. Major arterials or natural features form clear boundaries for each unit and, within each area, is a distinct road pattern which can contain curved streets, culs-de-sac,or crescents. Furthermore, each neighbourhood unit contains all required community facilities such as centrally located parks and easily accessible neighbourhood shops.

The Garden City

For all practical purposes, the origin of the neighbourhood unit concept can be traced back to the Garden City and Hampstead Garden City at the turn of this century.

Ebenezer Howard's book, Garden Cities of Tomorrow, published in 1902, was a benchmark in the development of town planning as it is known today.[1] In the book, Howard suggested that big city growth be halted through the construction of new communities of limited area and population grouped around a central city. He was concerned with the over crowded city and the unplanned town, the disorganization and poverty of community life, and he aimed a fundamental attack at the prevailing laissez-faire philosophy of uncontrolled growth.[2] Rather than permitting people to continue to stream into overcrowded cities like London, he recommended that growth be absorbed in new satellite or garden cities. Garden cities were not to be suburbs or parts of a parent city but each was to be a distinct civic unit with its own local government and corporate life, possessing the economic, social, and cultural characteristics of a town while, at the same time, connected to a central city by an efficient transportation system.[3]

One of the most interesting features of Howard's notion, from the point of view of this thesis, was the division of the garden city into wards, each with its own schools and community facilities.[4] The boundaries of the wards were the major radial roads of the town. In this, Howard anticipated the neighbourhood unit.

---

[1] Ebenezer Howard, Garden Cities of Tomorrow, Faber and Faber, London, 1945 edition, originally published in 1898 under the title of Tomorrow: a Peaceful Path to Real Reform.
[2] C.B. Purdom, The Building of Satellite Towns, J.M. Dent, London, 1949, p. 31.
[3] *Ibid*., p. 24.

Letchworth, begun in 1903 and designed by Raymond Unwin and Barry Parker, and Welwyn Garden City (1919) were promoted by Howard and have proved to be successful new towns. Purdom points out, though, that neither town carried out Howard's ward system.[5] The planning emphasis at the time still lay on the city as a whole and not on the creation of communities within cities. Despite this fact, the residential areas of both garden cities show design features which were later used extensively in the neighbourhood unit concept. These include the use of curved streets, culs-de-sac, and easily accessible open space.

Hampstead Garden Suburb (Figure 1)

In 1907, after Letchworth, Unwin and Parker designed Hampstead Garden Suburb near London. In contrast to Letchworth, Hampstead was viewed as a community within London and not as an independent satellite town. This approach is central to the neighbourhood unit concept.

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[4] J.D. Tetlow, "Sources of the Neighbourhood Idea," Journal of the Town Planning Institute, Vol. 45 p. 113, April, 1959.
[5] Purdom, op. cit., p. 408.

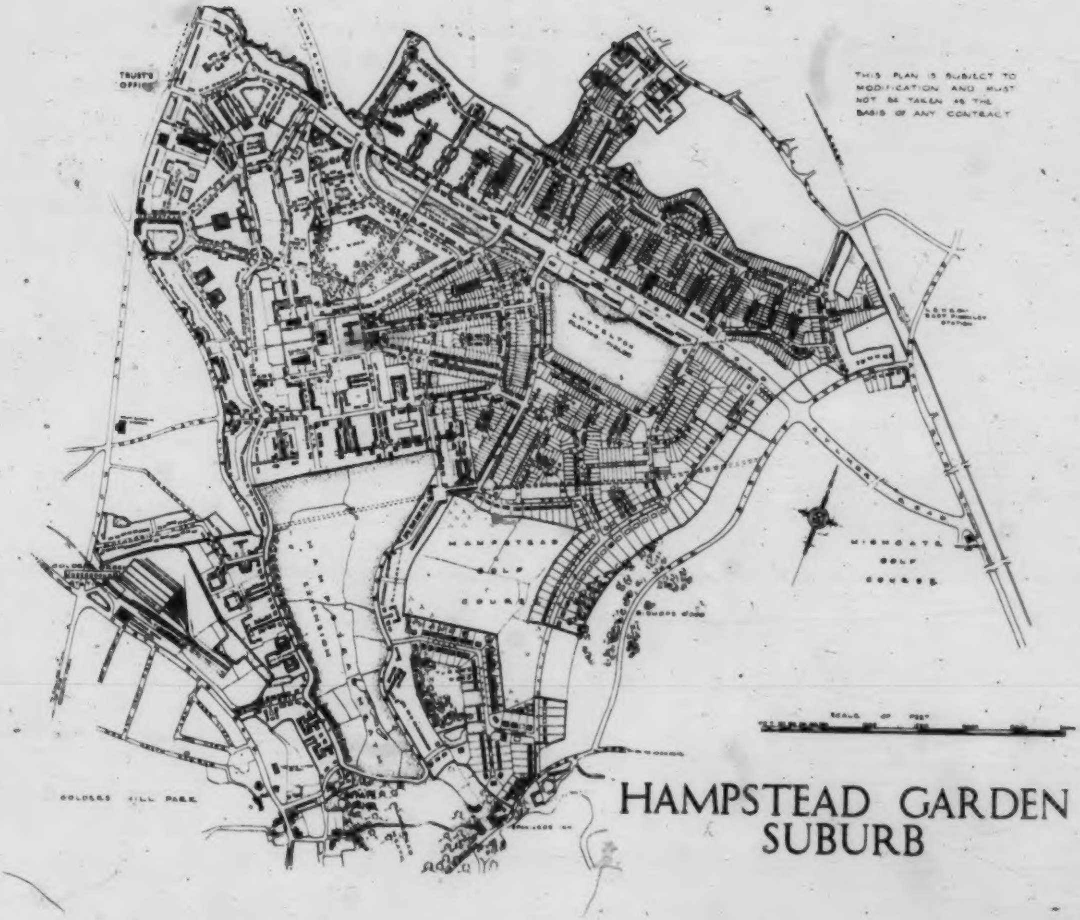
TRUST'S OFFICE
THIS PLAN IS SUBJECT TO MODIFICATION AND MUST NOT BE TAKEN AS THE BASIS OF ANY CONTRACT
HAMPSTEAD GOLF COURSE
HIGHGATE GOLF COURSE
GOLDERS HILL PARK
SCALE OF FEET
HAMPSTEAD GARDEN SUBURB

FIGURE 1 HAMPSTEAD GARDEN SUBURB

Source: Walter L. Creese, The Search for Environment, London, Yale University Press, 1966, p. 237.

Hampstead was initiated by the noted social reformers, Canon and Mrs. Barnett, upon 240 acres. Its objective was the creation of a settlement with social facilities: a common building and meeting place (called Toynbee Hall) where residents of the neighbourhood could come together for the purposes of play, education, or sociability.[6] In 1957, Rasmussen described Hampstead as "an ideal suburb which still today, is one of the most successful examples of neighbourhood planning."[7] The suburb does contain most of the elements suggested by Perry: a special street system, community facilities such as churches, a school, a recreation centre, and a shopping centre. Moreover, all of these facilities are grouped to give easy accessibility to the residents.[8] Unwin and Parker also used the superblock and, on a limited scale, the continuous inner park in Hampstead, planning concepts used later by Stein and Wright in their version of the neighbourhood unit.[9]

It is true that several neighbourhood unit principles were included within the design, however, omissions also exist. Most noticeable is the lack of a distinctive boundary for the community and the absence of a unified road network. These deficiencies may have made it more difficult to identify the suburb. Nevertheless, Hampstead is rightly regarded as an important influence on the evolution of the neighbourhood unit concept.

---

[6] Lewis Mumford, "The Neighbourhood and the Neighbourhood Unit," Town Planning Review, Vol. XXIV, 1953-1954, p. 260.

[7] S.E. Rasmussen, "Neighbourhood Planning," Town Planning Review, Vol. XXVII, 1956-1957, p. 198.

[8] Ibid.

[9] Lewis Mumford in "Introduction," to C.S. Stein, Toward New Towns for America, M.I.T. Press, Cambridge, Mass., 1957, p. 16.

The Neighbourhood Unit Concept

In 1929 Clarence Perry outlined the neighbourhood unit as a guiding concept and set of principles for planning residential areas.[10] He attributed his ideas on the concept to Ebenezer Howard and Raymond Unwin in Britain and in the United States to the community centre movement and landscape architect Frederick Law Olmsted. The community centre movement, begun around the turn of the century, was an attempt to encourage people to become involved in community affairs by using the school as a meeting and social centre. Perry was a part of this movement and its influence is reflected in his emphasis on the school as the focal point of the neighbourhood. Frederick Law Olmsted designed Forest

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[10] Clarence Arthur Perry, "The Neighbourhood Unit," monograph as part of "Neighbourhood and Community Planning," Regional Survey of New York and its Environs, Vol. III, New York: Committee on Regional Plan of New York and Its Environs, 1929, reissued in Perry, Housing for the Machine Age, New York: Russell Sage Foundation, 1939, p. 50.

Hills Gardens, a New York suburb to which Perry gives credit for many of his ideas. When Perry analyzed Forest Hills into its essential elements, he found that they constituted the main principles of his ideal neighbourhood.[11]

Perry, like Howard, was concerned about the poor living conditions of big cities. In New York, where Perry lived, delinquency rates were high, residents were isolated, a heavy migration was occurring from central areas to the suburbs, central area property values were declining, and blight was increasing. Unlike Howard, though, who advocated a halt tc city growth and its redirection to new satellite communities, Perry believed reform could take place within the city, his approach being the use of neighbourhood units.

To have pleasant, healthy residential areas, he emphasized that the environs of the house must be considered in addition to the house and lot. Land subdivision at the time, though, was a haphazard process. Developers subdivided their parcels without thought to their relationship to each other and often without providing essential community facilities such as parks, shops, and schools. To overcome these difficulties, Perry recommended the neighbourhood unit as a guide to organizing residential space and in so doing, specified the following six principles:[12]

---

[11] Ibid., p. 211.

1. Size. A residential unit development should provide housing for that population for which one elementary school is ordinarily required, its actual area depending upon its population density.

2. Boundaries. The unit should be bounded on all sides by arterial streets sufficiently wide to facilitate its by-passing, instead of penetration, by through traffic.

3. Open Spaces. A system of small parks and recreation spaces, planned to meet the needs of the particular neighbourhood, should be provided.

4. Institution Sites. Sites for the school and other institutions having service spheres coinciding with the limits of the unit should be suitably grouped about a central point or common.

5. Local Shops. One or more shopping districts, adequate for the population to be served, should be laid out on the circumference of the unit, preferably at traffic junctions and adjacent to similar districts of adjoining neighbourhoods.

6. Internal Street System. The unit should be provided with a special street system, each element being proportioned to its probable traffic load, and the street net as a whole being designed to facilitate circulation within the unit and to discourage its use by through traffic.

Figure 2 illustrates Perry's principles. The population (approximately 5000) served by an elementary school sets the neighbourhood scale. The school, centrally located, is

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[12] Ibid., p 51.

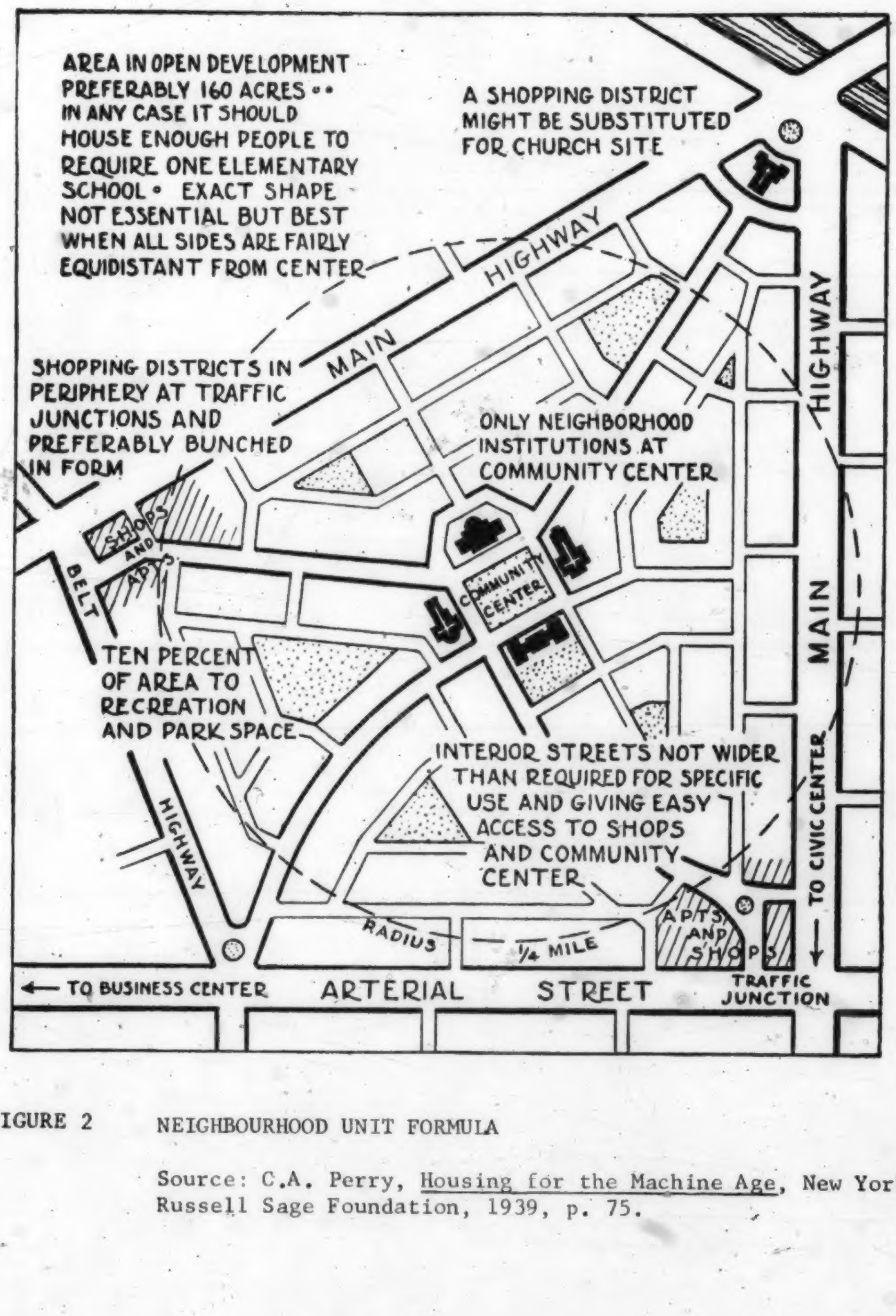
AREA IN OPEN DEVELOPMENT PREFERABLY 160 ACRES •• IN ANY CASE IT SHOULD HOUSE ENOUGH PEOPLE TO REQUIRE ONE ELEMENTARY SCHOOL • EXACT SHAPE NOT ESSENTIAL BUT BEST WHEN ALL SIDES ARE FAIRLY EQUIDISTANT FROM CENTER
A SHOPPING DISTRICT MIGHT BE SUBSTITUTED FOR CHURCH SITE
MAIN HIGHWAY
MAIN HIGHWAY
SHOPPING DISTRICTS IN PERIPHERY AT TRAFFIC JUNCTIONS AND PREFERABLY BUNCHED IN FORM
ONLY NEIGHBORHOOD INSTITUTIONS AT COMMUNITY CENTER
SHOPS AND APTS
BELT
COMMUNITY CENTER
TEN PERCENT OF AREA TO RECREATION AND PARK SPACE
HIGHWAY
INTERIOR STREETS NOT WIDER THAN REQUIRED FOR SPECIFIC USE AND GIVING EASY ACCESS TO SHOPS AND COMMUNITY CENTER
TO CIVIC CENTER
RADIUS 1/4 MILE
APTS AND SHOPS
← TO BUSINESS CENTER
ARTERIAL STREET
TRAFFIC JUNCTION

FIGURE 2 NEIGHBOURHOOD UNIT FORMULA

Source: C.A. Perry, Housing for the Machine Age, New York, Russell Sage Foundation, 1939, p. 75.

9

within a quarter-mile walking distance of each dwelling and a sufficient proportion of the area, 10 per cent, is set aside for parks and recreation. Further, the neighbourhood gains identity and unity through its internal street system and boundary arterials.

Perhaps the most significant principle underlying the entire neighbourhood concept and reflecting the six attributes is the principle of "unit" and "unity."[13] Limited size, clearly defined boundaries, limited access, exclusion of through traffic, the elementary school as a focal point, internally located facilities, and distinctive street patterns all emphasize the neighbourhood as an inwardly oriented, closed unit.

As the neighbourhood unit began to be used more and as further research occurred, more objectives came to be associated with it. Solow _et al._ have compiled the following lengthy list.[14]

1) Overcome the deficiencies of residential districts existing or being built at that time.

2) Produce a housing environment that will be

---

[13] Anatole A. Solow, et. al., _The Concept of the Neighbourhood Unit_, Graduate School of Public and International Affairs, University of Pittsburgh, Pittsburgh, 1969, p. 13.

[14] _Ibid_., pp. 15-16.

satisfactory in particular for child rearing families, and that in general will foster stability and development of the individual and the family.

3) Insure the provision of adequate-sized sites and structures for outdoor recreation and community facilities, suitably located in relation to residences.

4) Provide convenient pedestrian access for all residents to schools, shops, playgrounds in terms of reasonable walking distance.

5) Insure the safety of pedestrians, especially children.

6) Provide adequate air, light and sunshine, and other attributes of the residential environment considered favorable to physical and mental health and well-being.

7) Protect residents from nuisances and other negative environmental influences.

8) Provide a sense of belonging and identification, and make people proud and satisfied with the distinctive and esthetically pleasing character of their residential district.

9) Encourage social interaction, community life, and civic and political participation and self-determination through a variety of social, civic and political organizations operating at the neighbourhood level.

10) Foster loyalty to a community of "comprehensible" size as a step in training in citizenship.

11) Develop the character of the younger generation through the role of the primary group.

12) Encourage and facilitate the creation of neighbourhood voluntary associations to maintain the quality and character and stability of the area and to further other common interests.

13) Maintain economic value through stability and quality, and resist outside deteriorating influences.

14) Achieve economies in land development and thereby allocate more space to open areas, by means of large-scale unit planning.

These objectives can be compared with those conceived by Calgary planners.

Radburn (Figure 3)

Under the influence of Howard, Unwin and Perry, architect Clarence Stein and planner Henry Wright were eager to create a garden city in America using neighbourhood unit principles. Radburn, New Jersey was the result. Development was begun in 1929 but, because of the effects of the economic recession, Radburn was never completed as a self-sufficient garden city. It did however, grow into a highly successful and world renowned suburb.[15] The success of Radburn was largely due to the inclusion of the following innovative elements.[16]

1. The superblock replaced the characteristic narrow, rectangular block.
2. Specialized roads were planned for specific uses instead of expecting standardized roads to cope with all types of traffic.

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[15] C.S. Stein, Towards New Towns for America, M.I.T. Press, Cambridge, Mass., 1957, p. 41.
[16] Ibid., p. 44.

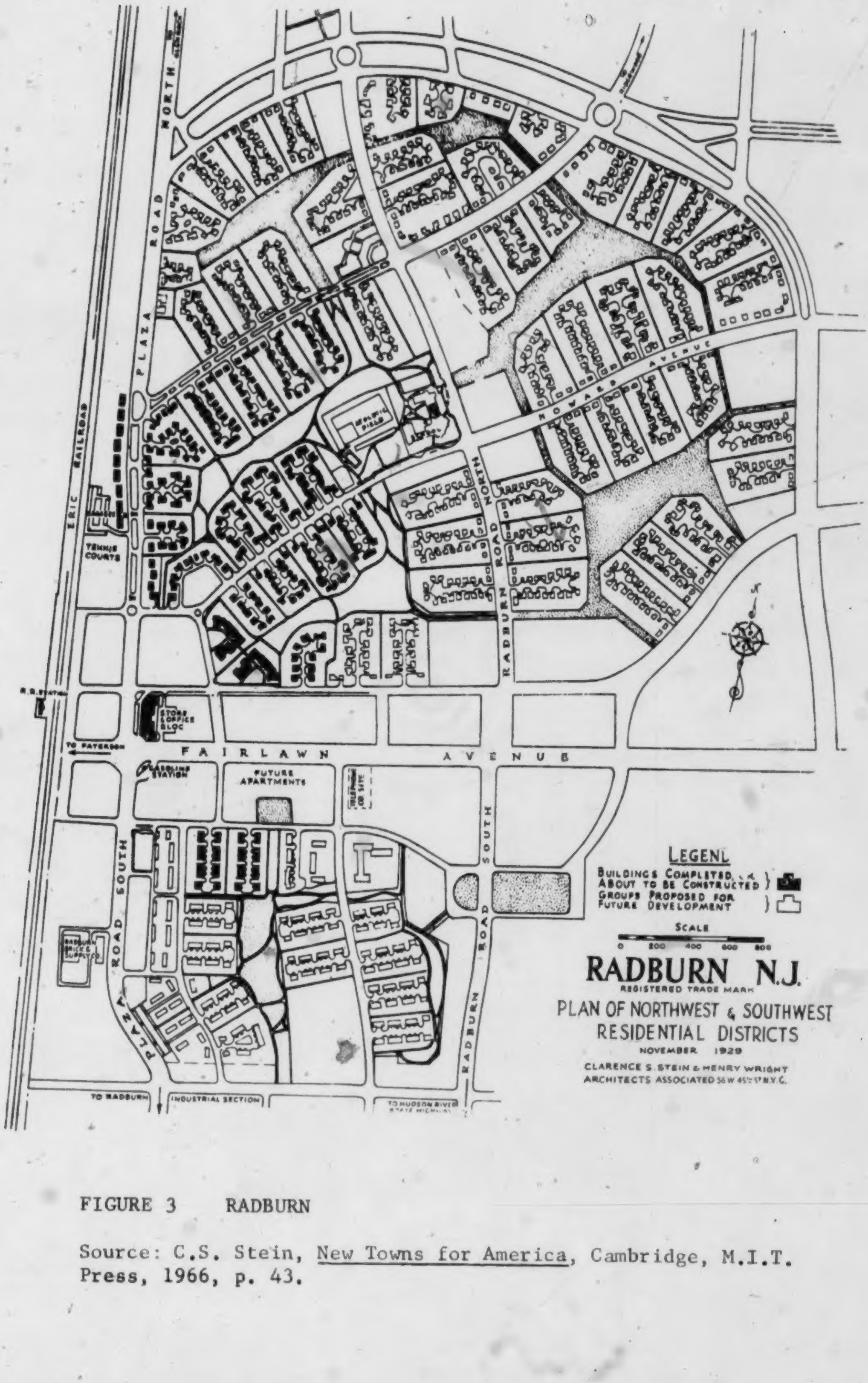
ERIE RAILROAD
PLAZA ROAD NORTH
HOWARD AVENUE
RADBURN ROAD NORTH
TENNIS COURTS
R.R. STATION
STORE & OFFICE BLDG
TO PATERSON
FAIRLAWN AVENUE
GASOLINE STATION
FUTURE APARTMENTS
PLAZA ROAD SOUTH
RADBURN ROAD SOUTH
TO RADBURN
INDUSTRIAL SECTION
TO HUDSON RIVER STATE HIGHWAY
LEGENL
BUILDINGS COMPLETED OR ABOUT TO BE CONSTRUCTED
GROUPS PROPOSED FOR FUTURE DEVELOPMENT
SCALE
0 200 400 600 800
RADBURN N.J.
REGISTERED TRADE MARK
PLAN OF NORTHWEST & SOUTHWEST RESIDENTIAL DISTRICTS
NOVEMBER 1929
CLARENCE S. STEIN & HENRY WRIGHT
ARCHITECTS ASSOCIATED 56 W 45TH ST N.Y.C.

FIGURE 3 RADBURN

Source: C.S. Stein, New Towns for America, Cambridge, M.I.T. Press, 1966, p. 43.

3. There was complete separation of pedestrian and automobile traffic.
4. Houses were turned around with living and sleeping rooms facing towards access roads.
5. Large parks were located in the centre of the super blocks, each joined to form a continuous park.

The most important innovation from the point of view of this study was the acceptance of the neighbourhood unit concept which Stein reveals, occurred for the first time in Radburn.[17] The Radburn neighbourhoods have similarities to Perry's conception, yet also contain significant modifications.

Despite these differences, Radburn does include several key neighbourhood principles: a restricted size, adequate open space, a road pattern which restricts through traffic, and peripheral neighbourhood shopping facilities. These elements create a strong sense of neighbourhood identity for Radburn.

British New Towns (Figure 4)

Following World War II, the large British cities were faced with many serious problems, the most pressing being a severe housing and job shortage. In an effort to improve the

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[17] *Ibid.*, p. 48.

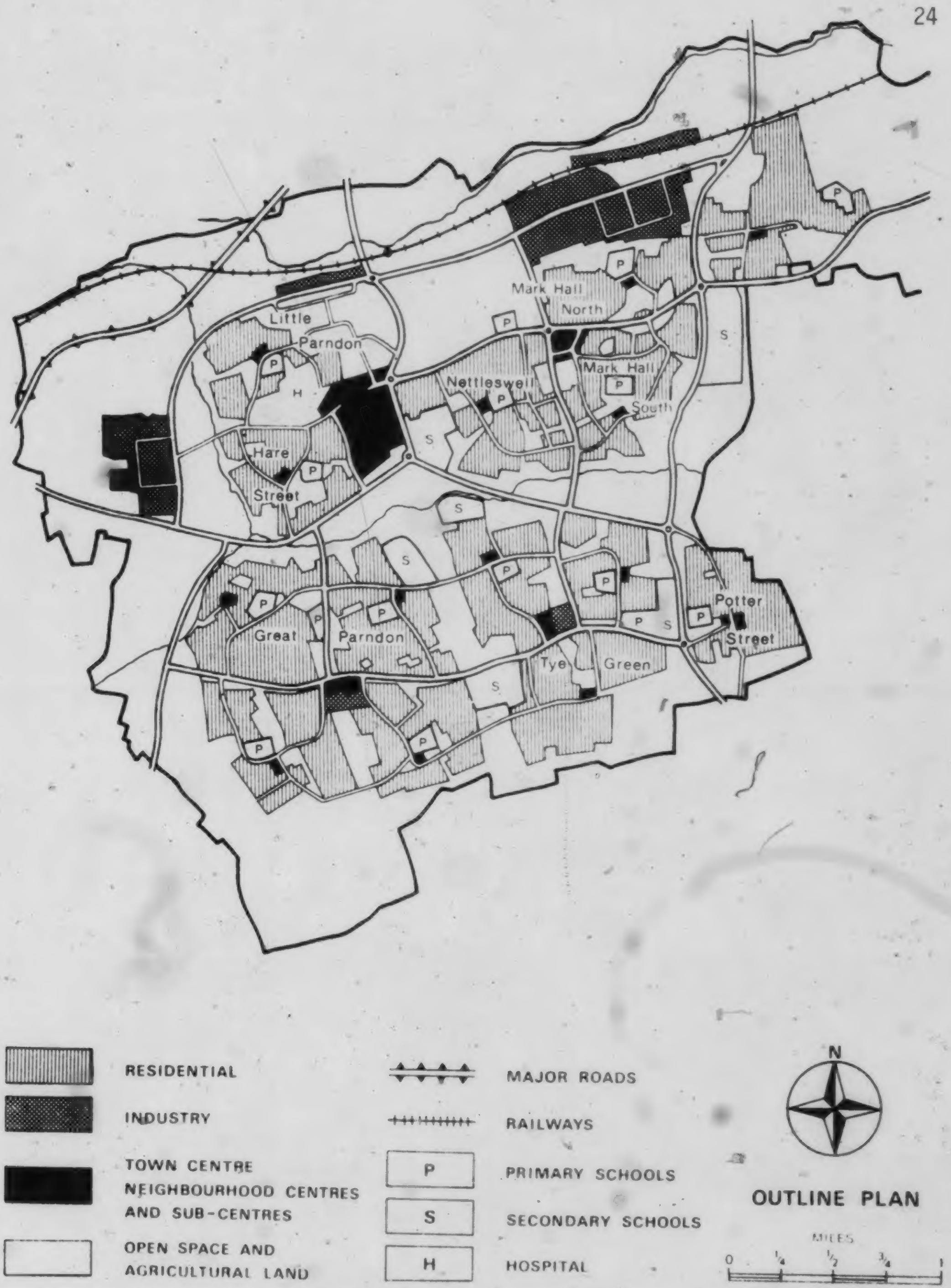
Mark Hall
North
Little
Parndon
Nettleswell
Mark Hall
South
H
Hare
Street
Great
Parndon
Tye
Green
Potter
Street
P
S
RESIDENTIAL
INDUSTRY
TOWN CENTRE
NEIGHBOURHOOD CENTRES
AND SUB-CENTRES
OPEN SPACE AND
AGRICULTURAL LAND
MAJOR ROADS
RAILWAYS
PRIMARY SCHOOLS
SECONDARY SCHOOLS
HOSPITAL
N
OUTLINE PLAN
MILES
0
1/4
1/2
3/4
1

FIGURE 4 NEIGHBOURHOOD UNITS: NEW TOWN OF HARLOW

Source: Hazel Evans, ed., New Towns: The British Experience, London, Charles Knight and Co., 1972, p. 91.

situation, in 1945, the British government passed the New Towns Act. The major objective of the act was the dispersal of industry and population from the large, overcrowded cities to new towns. By 1969, 23 new towns had been approved, most using the neighbourhood unit concept but differing radically from the fundamental principles advocated by Perry.[18]

Since shopping centres are traffic generators, Perry suggested their location at the edge of neighbourhoods. He also proposed larger shopping centres at the junctions of several neighbourhoods. By contrast, in British new towns, shopping facilities were included within a centrally located neighbourhood centre.[19]

Perry combined open space with a community centre or school. In British new towns, though, open space was located on the perimeter of a neighbourhood to first, separate neighbourhoods and second, to keep residential areas compact and within easy walking distance of services.[20]

The size of Perry's neighbourhood was determined by the drawing area of one elementary school, usually 5000 people or less. By constrast, British new town neighbourhoods were based on a standard 10,000 people.[21] As a result, the commercial centre was designated the focus of the neighbourhood and not the school. The school is of secondary inportance; in fact, several elementary schools were required to serve the normal neighbourhood population.

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[18] F. Osborn and A. Whittick, The New Towns: The Answer to Megalopolis, Leonard Hill, London, 1969.
[19] Anthony Goss, "Neighbourhood Units in British New Towns," Town Planning Review, Vol. XXXII, 1961-1962, p. 66.
[20] Ibid., p. 67.

Although neighbourhoods in British new towns do vary from Perry's conception, they do share the most important principle, a sense of unity. This is achieved by well-defined boundaries, ample open space, a central focus, and a street system which restricts through traffic.

Kitimat, British Columbia

The northern British Columbia resource town of Kitimat, founded in the early 1950s by the Aluminum Company of Canada, also uses the neighbourhood unit concept extensively. To help assure the industrial success of the town, Alcan hired a planning team under Clarence Stein as coordinator. Because of his influence, the design principles of Radburn and the neighbourhood unit were moulded to the site of Kitimat.[22] Facilities for education, daily shopping, and leisure time activities were integrated into each neighbourhood. Figure 5 illustrates the super block structure employed as the major design element in the planning of Kitimat's neighbourhoods. As in Perry's neighbourhood unit concept, major arterials form the boundaries of the neighbourhoods while collectors provide access between the arterials and the local streets. Also, as in Radburn, the internal parks are connected by a continuous system of walkways separating pedestrians and vehicles.

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[21] Ibid.

[22] William G.A. Shaw, Evaluations of Resource Towns: Planned and Unplanned, unpublished M.A. thesis, University of Alberta, Edmonton, 1970, p. 42.

Edmonton (Figure 6)

In Edmonton, beginning in 1949, systematic use was also made of the neighbourhood unit concept. The Sherbrooke neighbourhood, developed in 1953, is one example which encompasses most of Perry's principles.[23] In the neighbourhood, an internal street system eliminates through traffic and major arteries function as distinctive boundaries for the development. Furthermore, an elementary school is centrally located within easy walking distance of most homes. A large number of local parks and tot lots were provided and, to furnish a greater setback for houses along

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[23] Wah May Winnie Chan, The Impact of the Technical Planning Board on the Morphology of Edmonton, unpublished M.A. thesis, University of Alberta, Edmonton, 1969, pp. 80-82.

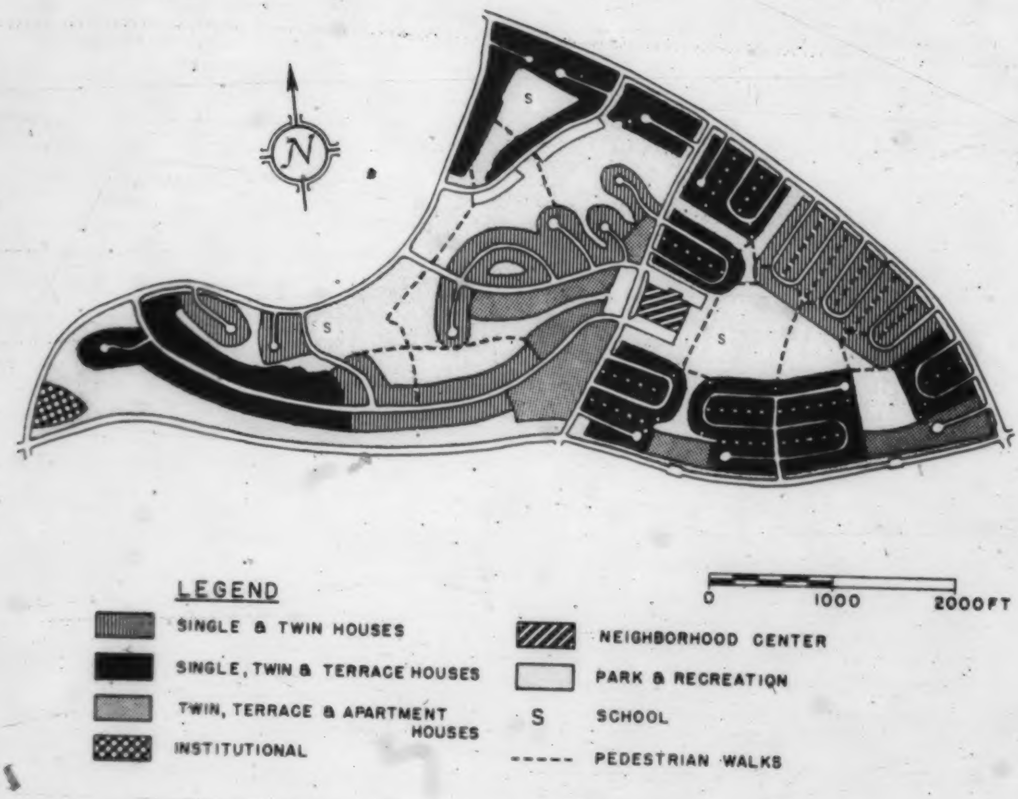
N
S
S
S
LEGEND
0
1000
2000FT
SINGLE & TWIN HOUSES
SINGLE, TWIN & TERRACE HOUSES
TWIN, TERRACE & APARTMENT HOUSES
INSTITUTIONAL
NEIGHBORHOOD CENTER
PARK & RECREATION
S SCHOOL
----- PEDESTRIAN WALKS

FIGURE 5 KITIMAT, B.C. - PLAN FOR NEIGHBOURHOOD "A"

Source: I. Robinson, New Industrial Towns on Canada's Resource Frontier, Research Paper No. 73, Department of Geography, University of Chicago, 1962, p. 65.

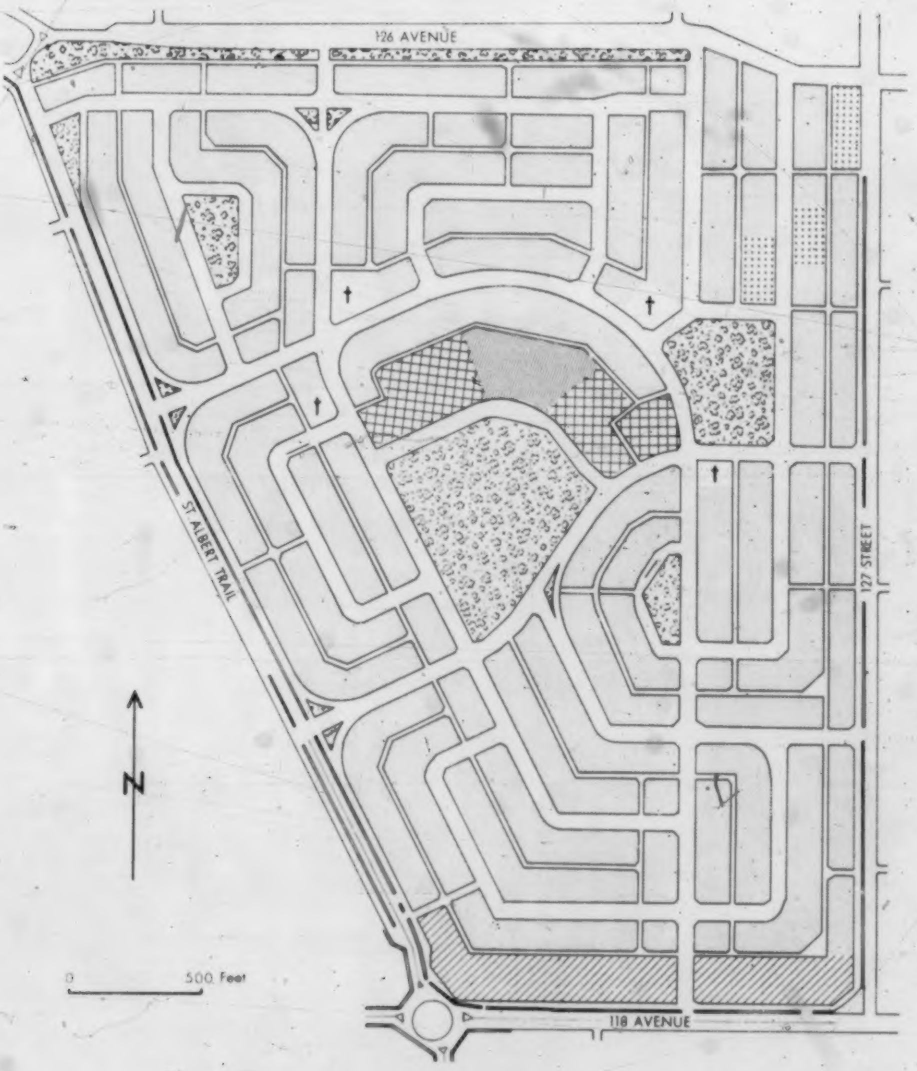
126 AVENUE
ST. ALBERT TRAIL
127 STREET
118 AVENUE
N
0
500 Feet

FIGURE 6

SHERBROOKE NEIGHBOURHOOD EDMONTON

☐ SINGLE FAMILY HOUSING
▨ ROW HOUSING
▦ WALK-UP APARTMENTS AND DUPLEXES
░ LOTS BUILT-UP PRIOR TO 1953
▒ SCHOOL SITE AND PARK AREAS
† CHURCH SITE
■ LOCAL COMMERCIAL

Source: Wah May Winnie Chan. The impact of the Technical Planning Board on the Morphology of Edmonton. Unpublished M. A. Thesis University of Alberta 1969. p. 82

an arterial, a park buffer was established along the northern boundary. In contrast to Perry's suggestion that commercial facilities be located along the periphery, in Sherbrooke, a large area was set aside in the centre. This site proved impracticable and was subsequently rezoned for apartments and row housing. The shopping centre was actually built at the corner of 118 Avenue and the St. Albert Trail.

CONCLUSION

The first serious steps towards the formation of the neighbourhood unit concept were taken at an early date in the modern town planning movement. Of particular importance was Ebenezer Howard's suggestion to establish independent garden cities. By recommending the use of wards within the garden cities, Howard inferred that, to be successful, it is best for an urban area to be viewed and planned as a series of distinct sub-units or communities. This idea was further refined with the development of Hampstead Garden Suburb, wherein a specific area of a larger city was planned as a well-defined neighbourhood. Subsequently, Perry, drawing from the garden city and Hampstead Garden Suburb proposed the neighbourhood unit concept. With this step, Perry not only described an orderly method for the subdivision of land but also outlined specific objectives to be aimed at in the planning of residential areas. Residential areas planned in

Calgary appear to have been based on some of these aims.

CHAPTER II

THE FOUNDATIONS OF MODERN RESIDENTIAL PLANNING PRINCIPLES IN CALGARY

To understand the evolution and spatial arrangement of Calgary's residential forms, a brief description of its physical environment and historical development is required. Although the terrain has been a major influence on the form and direction of the city's growth, changes in the economic situation as well as stronger planning controls in later years have also had far-reaching effects. The objective of this section is therefore, to discuss the historical development of the city with emphasis on those factors which have had an influence on the evolution of residential planning principles.

PHYSICAL FEATURES

Surface form has played a significant role in establishing Calgary's urban pattern.[1] The terrain comprises level or gently sloping land at various elevations separated by rivers, bluffs and gullies. The city itself is situated at the confluence of two incised rivers, the Bow and the Elbow. Both have wide stretches of flood plains as well as steep bluffs. The Bow River reaches the city from the west, making a pass through the city to the southeast, while the Elbow River makes a major diagonal break in the land surface as it flows into the city from the south west. To the west and north west are rolling uplands through which numerous tributary streams have created valleys and gullies giving rise to wide variations in local relief.[2] In contrast, to the east and south, the terrain is relatively level.

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[1] P.J. Smith, "Calgary: A Study in Urban Pattern," Economic Geography, Vol. 38, No. 4, October, 1962, p. 315.

The varied terrain has enhanced the attractiveness of the city but it has also imposed constraints on development. The river valleys for example, have functioned as barriers to restrict mobility. The rolling land surface has also presented problems. Utility servicing is more difficult and, in some areas, steep road grades are required.

HISTORICAL DEVELOPMENT 1875-1945

Calgary has passed through several distinct phases during its short existence. The city began with the establishment of a North West Mounted Police outpost in 1875 at the confluence of the two rivers. By the 1880s ranching became the region's biggest business even though transportation was difficult.[3] The arrival of the Canadian Pacific Railway in 1883 and the construction of branch lines over the next 30 years had a profound impact on the overall growth and development of the city.[4] The eastern markets became accessible and with the federal government's policy of active immigration, the region opened up for farming with Calgary becoming the supply and service centre for Southern Alberta.

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[2] ---- "Land Use Patterns in the City of Calgary," unpublished report presented at the Annual Meeting of the Canadian Association of Geographers, Edmonton, 1958.

As a consequence of agricultural expansion, a land boom hit the city from 1908 to 1912. Population increased from 4,400 in 1904 to 44,000 in 1911 and enough land was subdivided by private speculators during these years to accommodate a city of half a million people.[5]

The Mawson Plan

The boom created enormous feelings of confidence about the future. This is exemplified in Thomas Mawson's 1914

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[3] Smith, "Calgary: A Study in Urban Pattern," op. cit., p. 317.

[4] Ibid.

[5] ---- "Change in a Youthful City: The Case of Calgary, Alberta," Geography, Vol. LVI, Part 1, January, 1971, p. 4.

General Plan to guide the city's anticipated growth.[6] Expressing this optimism Mawson commented:

> Never before has there been such a phenomenal development and such rapid peopling of the hither to waste places of the earth under the conditions, provided and imposed by modern civilization as in the great West of Canada at the present time.[7]

Mawson's plan is interesting in that many of his recommendations are based on ideas similar to those of the neighbourhood unit concept. He was quick to point out the inadequacies of the "American chess board" system of planning by comparing it to Calgary's subdivisions planned with curvelinear street design. Referring to the Mount Royal subdivision: "... on those subdivisions where the roads have been laid out with some regard to the contours, and the square plan has been departed from altogether, the very best class of development has taken place."[8]

Mawson also criticized the uniform street widths of the gridiron pattern and suggested the design of roads for specific functions:

> ... we ought to arrange our plan so that certain streets naturally become traffic routes and

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[6] Thomas H. Mawson, Calgary: A Preliminary Scheme for Controlling the Economic Growth of the City, published under the auspices of the City Planning Commission of Calgary by T.H. Mawson and Sons, London, 1914.

[7] Ibid., p. 1.

[8] Ibid., p. 7.

> others remain mere means of access to the buildings which line them on either side, thus giving quiet and privacy to the residential districts.[9]

One of the primary objectives of the neighbourhood unit concept is the encouragement of local participation and loyalties. Also sharing this concern, Mawson recommended the establishment of small social centres in the outlying portions of the city and suggested, as Perry did later, the establishment of social centres in connection with schools. Stressing the benefits of this concept Mawson stated:

> ... not only will the very most use be made of the ground at your disposal, both from the practical and aesthetic sides of the subject, but the social centres so created will become a rallying point round which the life of each suburb will centre and so help to create a spirit of citizenship and esprit-de-corps.[10]

Parks also played an important role in civic life in Mawson's plan. He strongly urged a complete park system forming "a chain of park-like avenues and boulevards connecting up every part of your city with every other."[11] By using a design like this, he was confident that much greater use would be made of the parks. In addition, Mawson also recommended as Perry later did, "... at least one small open space within easy reach of every dwelling in the city."[12] To achieve this objective he advised that subdividers be required to dedicate a portion of their holdings for open spaces. Similarily, Perry proposed a 10 per cent dedication.

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[9] *Ibid*., pp. 7-8.
[10] *Ibid*., p.48.
[11] *Ibid*., p. 51.

Anticipating the need for decentralized commercial facilities, Mawson stated, "... not only do you require a large central business centre, but also subsidiary ones at central points in the various suburbs of your city, principally for the provision of small household necessities."[13] The neighbourhood unit concept also requires local commercial facilities catering to convenience needs.

Although the plan had many useful suggestions, it also included elaborate proposals with little chance of ever becoming realities (e.g. civic centre). These far-fetched plans may have contributed to a reluctance 30 years later to prepare another general plan. In 1946 for example, the city commissioner in a letter to the Town Planning Commission advised:

> At present and for possibly two or three years we believe that the finances of the city should be devoted to improving and bettering the general conditions in the city without incurring an expense for an elaborate scheme which for the

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[12] Ibid.

[13] Ibid., p. 61.

present has no chance of being developed.[14]

Here, a general plan was viewed as an extravagant project rather that an important guide for daily development decisions.

RESIDENTIAL DEVELOPMENT ISSUES 1945-1953

The land boom collapsed shortly before the outbreak of World War I and from then through the economic depression to the end of World War II, little economic development occurred in the city. Subdivision during the land boom far exceeded immediate demands and, as a consequence, taxes went unpaid and the city took possession of large quantities of subdivided land. It has been estimated that in 1919 fully two-thirds of the land within the city limits had reverted to the city as tax-forfeited property.[15] Civic ownership of so much land enabled the city to exercise direct development control for many years. This gave planning a foothold in Calgary that few cities have been able to provide.[16]

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[14] Letter from V.A. Newhall, City Commissioner, to G.M. Brown, Chairman of the Town Planning Commission, November 26, 1946.

[15] Calgary Planning Department Report, Background for Planning, 1950, p. 3.

[16] Smith, "Change in a Youthful City," op. cit., pp. 10-11.

The discovery of oil at Leduc in 1947 created enormous growth pressures in the city, but the city administration was not prepared at first to handle the rapidly increasing demands for development. Commercial, industrial, and housing developments were approved on an individual basis with little thought to their inter-relationships. Many problems arose as a result of this haphazard approach. Contributing to the problems was the existence of the inadequate gridiron subdivision design. During the land boom, land was subdivided with no special thought to the terrain or the provision of community facilities such as schools, parks and playgrounds, and convenience stores. Complaints about the lack of community facilities awoke local government concern. In 1945, for example, the city commissioner in a letter to the chairman of the Town Planning Commission stated:

> May I suggest that in your Town Planning Commission you have a review of the city in divided subdivisions or localities to see that in future development there is in the opinion of your Commission suitable commercial areas set aside, suitable areas for playgrounds thought of, suitable areas for schools, particularly in the newer districts.[17]

Schools

During the land boom years, no land dedication was required for schools or parks. The school board was in competition with other land users for the purchase of sites which sometimes left it with poor locations. In attempting to overcome the problem, the board began to buy sites well before a school was required. This happened for example, in 1947 with the following justification: "No building on these sites is contemplated in the near future, but the committee thought it wise to obtain land now for future building, rather than wait until the districts are settled and the best sites are lost."[18]

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[17] Letter from V.A. Newhall to G.M. Brown, October 4, 1945.

On the gridiron pattern, school size was based on the nine room school which usually required one city block of approximately three acres. As a result of the post World War II population growth, the schools were no longer large enough. Additions increased school capacity but, at the same time, they reduced play space.[19]

Parks

One criticism frequently encountered in the late 1950s was Calgary's failure to provide adequate parks and playgrounds. The following editorial comment was typical:

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[18] The Albertan, March 5, 1947.

[19] Per. com. with L.R. Kalbfleish, former Director of Educational Facilities, Calgary Public School Board, November 13, 1973.

> Calgary has had fair enough intentions in many cases, for providing park facilities for the local sections of the city. But all too often it has become greedy and sold all or part of the park for building purposes. In actual practice large new areas of the city have been built up in the last four or five years with entirely inadequate park facilities.[20]

The gridiron pattern of subdivision made no special provision for parks. For many years growth was spotty, with many empty lots interspersed among new development. The open lots were likely used as play areas and concern was only voiced as these areas filled up.

Lack of cooperation between city departments also appears to have been a major problem. In one situation, for example, after the Land Department had surveyed and registered a replot, the Parks Department asked for park areas to be set aside. In protest, the land superintendent suggested that the Parks Department buy the land required for parks as the city would have to spend several hundred dollars resurveying and registering.[21] The Parks Department, though, had previously complained that if land was set aside, it was often the poorest quality. In the words of the superintendent: "We get the pieces of land which are absolutely useless for parks - the side hills and sloughs."[22]

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[20] Editorial, "Parks are Part of a City," The Albertan, November 4, 1949.
[21] Ibid., February 15, 1950.

Part of the difficulty was that, at the time, no park standards were used, so the amount of land necessary for parks was not known. In 1950 Alderman Mary J. Dover requested the Town Planning Commission to provide information on the ideal acreage for parks and playgrounds and what Calgary's situation was.[23] The Town Planning Engineer, after undertaking a detailed field survey discovered that the amount of parks and playgrounds in Calgary was considerably short of accepted park standards.[24] Earlier in the year the Town Planning Commission, following the advice of a subcommittee set up by the Parks and Playgrounds Committee, did recommend park standards for local areas. Part of the problem, though, was that in the gridiron pattern, neighbourhood boundaries were not clearly delineated. In coping with the situation, the sub-committee recommended that in newer sections of the city four blocks of city property be set aside in the centre of each square mile for use either as playgrounds only or combined park and playground areas. The sub-committee further recommended that one block be set aside in each of the four corners of the same sections "to fill the needs of the smaller children for play areas."[25] These simple criteria illustrate the need at the time for functional standards and centrally located, easily accessible parks and playgrounds.

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[22] Ibid., January 13, 1950.

[23] Letter from the City Clerk to J.A. Lamb, Town Planning Engineer, August 8, 1950.

[24] Town Planning Commission Report, Acreage for Parks and Playgrounds, 1950.

Commercial Facilities

Deciding on the size and location of commercial facilities has been a recurring problem throughout the period covered by this thesis. The major commercial centre during this period was the downtown while other commercial areas were, for the most part, ribbons along major transit routes and isolated neighbourhood stores. When the size of the population in a residential area increased to the point where commercial facilities could be supported, they were developed with their locations depending primarily on transit routes. In Tuxedo Park, for example, the major reason for choosing commercial locations was their close proximity to transit route loops (Figures 7 and 8). Until the population became large enough in such areas, residents were usually forced to travel long distances to obtain commercial services.

Since the location of commercial facilities was not

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[25] Minutes, Town Planning Commission, April 20, 1950.

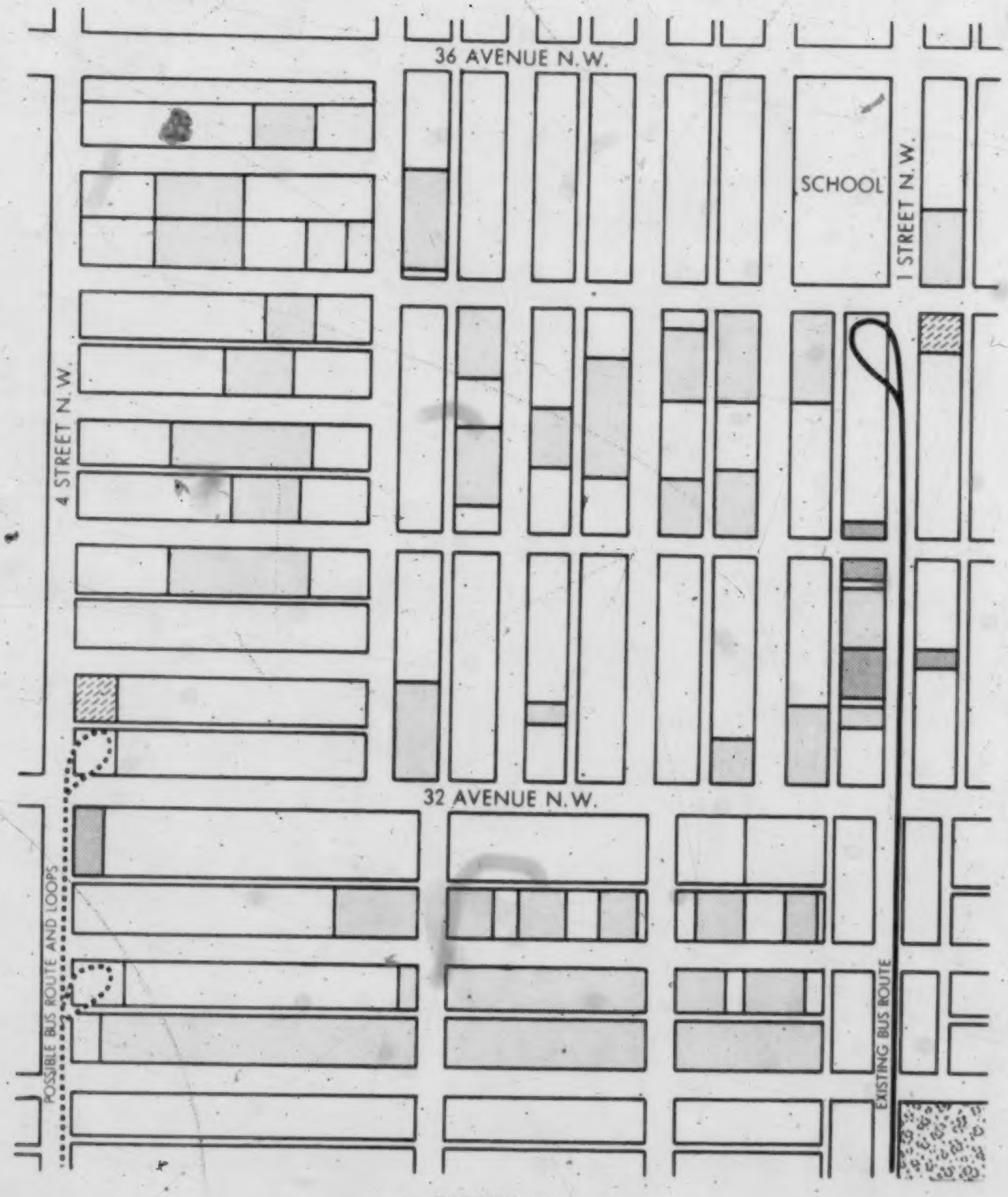
36 AVENUE N.W.
SCHOOL
1 STREET N.W.
4 STREET N.W.
32 AVENUE N.W.
POSSIBLE BUS ROUTE AND LOOPS
EXISTING BUS ROUTE

FIGURE 7
TUXEDO PARK, CALGARY

N

☐ VACANT LOTS
▢ EXISTING HOUSING
▨ PARK
■ EXISTING LOCAL COMMERCIAL
▨ PROPOSED LOCAL COMMERCIAL

Source: City Clerks Files, 1949

0 500 Feet

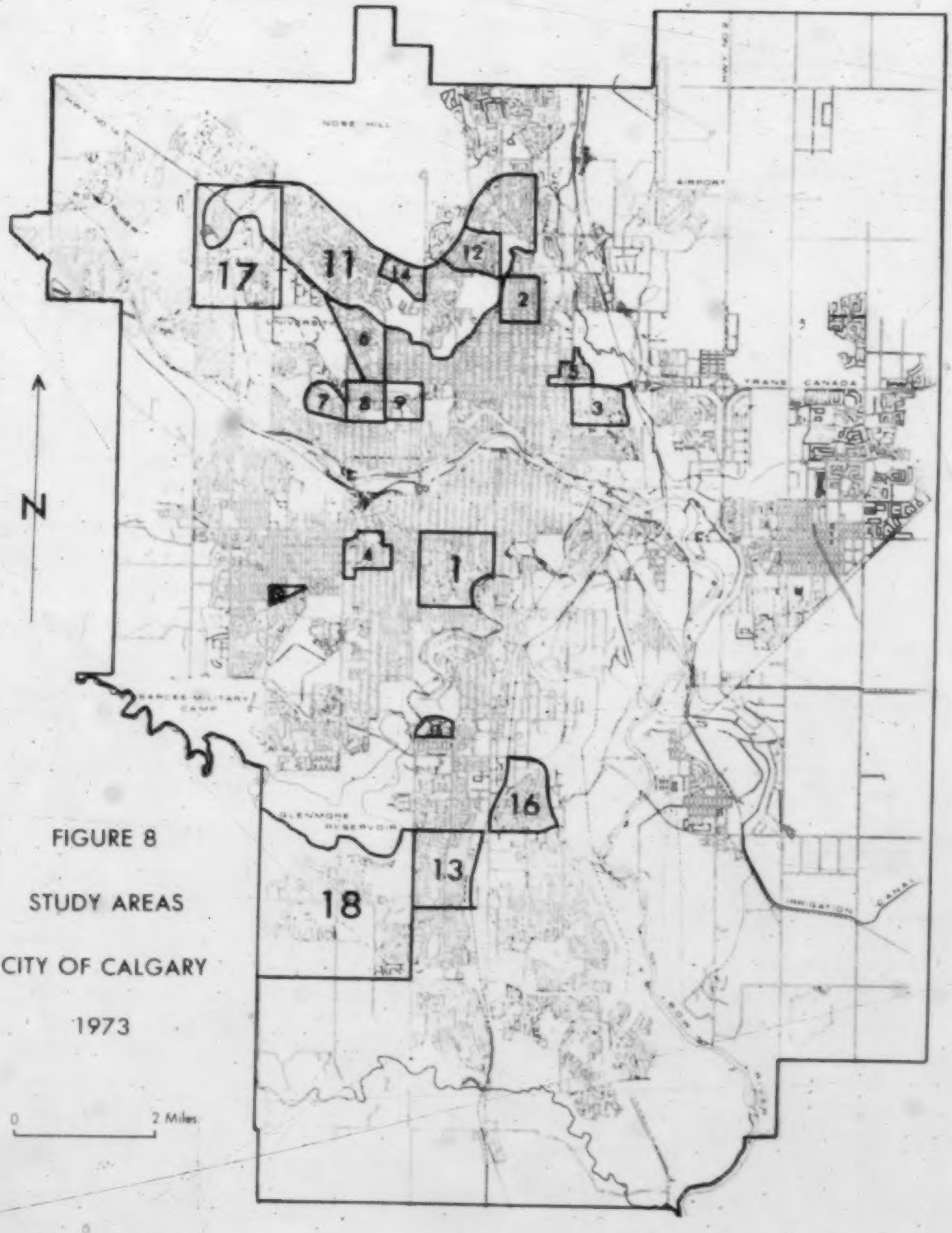
NOSE HILL
AIRPORT
TRANS CANADA
UNIVERSITY
SARCEE MILITARY CAMP
GLENMORE RESERVOIR
IRRIGATION CANAL
BOW RIVER
N
17
11
14
12
2
6
5
3
7
8
9
4
1
10
15
16
13
18
0
2 Miles

FIGURE 8

STUDY AREAS

CITY OF CALGARY

1973

1. MOUNT ROYAL
2. TUXEDO PARK
3. RENFREW
4. KNOB HILL
5. MOUNTVIEW
6. CAPITOL HILL
7. ST. ANDREWS HEIGHTS
8. BRIAR HILL
9. HOUNDSFIELD HEIGHTS
10. KILLARNEY
11. NORTH HILL DEVELOPMENT SCHEME*
12. HIGHWOOD
13. HAYSBORO
14. FOOTHILLS ESTATE
15. BELAIRE
16. FAIRVIEW
17. REGIONAL SHOPPING CENTRES AND HIGH DENSITY HOUSING SITE N.W. CALGARY
18. GLENMORE SECTOR

* Note: Study Area 11 includes areas 12, 14, and part of 17.

Source: Calgary Planning Department and City Clerk's Files and Reports known when residents bought their property, conflicts between commercial and residential land uses often occurred. In one subdivision, for example, residents bitterly opposed an adjacent drive-in theatre claiming that it would cause severe traffic congestion and depreciate the value of their homes.[26] Although the subdivision was within the city limits, the proposed drive-in theatre was not and, at the time the city did not have any authority in the fringe areas. In spite of a petition signed by 500 residents, the Minister of Municipal Affairs gave his approval because he "seemed to think the drive-in theatre would be quite in order and said he could go into the district and obtain twice as many signatures in favor."[27] This example not only illustrates a commercial-residential conflict but a jurisdictional one as well.

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[26] The Albertan, May 30, 1953.

[27] Ibid.

THE ESTABLISHMENT AND GROWTH OF MODERN TOWN PLANNING IN CALGARY

The Town Planning Commission

The evident problems created by the rapid growth rate generated a desire to obtain more effective planning. This is not to say that no planning occurred before 1945. Calgary had an advisory committee, the Town Planning Commission, set up in 1929 under Bylaw 2585.[28] The commission was composed of nine members including aldermen and interested citizens and was delegated the following duties:

1. to act in an advisory capacity in matters pertaining to town planning;
2. to prepare an official Town Planning Scheme; and
3. to prepare a zoning bylaw.[29]

The Commission could only act in an advisory capacity to City Council and most of its duties involved judging applications for rezoning. Even though it never did prepare an official town planning scheme, it did draft a zoning bylaw (2835) which was adopted by Council in 1934.[30] This bylaw guided the growth of the city until the introduction of interim development in 1951. Although the Town Planning Commission and the zoning bylaw received a good deal of criticism, particularly in the late 1940s, J. Ivor Strong, former City Engineer and City Commissioner defends them both: "The Town Planning Commission did a good job and the City had good planning with the zoning bylaw."[31] Mr. Strong credits George M. Brown, chairman of the Commission from 1944 to 1949 as the person most responsible for promoting town planning in Calgary. During his term as chairman of the Commission, Mr. Brown laid the foundations for the establishment of the town planning department, the hiring of a consultant, and the preparation of a master plan.[32]

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[28] Bylaw 2585, A Bylaw to Appoint a Town Planning Commission in and for the City of Calgary, Calgary, September 30, 1929.

[29] Ibid.

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[30] Bylaw 2835, A bylaw to regulate the location and use of buildings and the use of land within the City of Calgary to limit the height of buildings; to prescribe building lines and the size of yards and other open spaces; and for these purposes to divide the city into districts and to be known as the "Zoning Bylaw," July, 23, 1934.

[31] Per. com. with J. Ivor Strong, November 13, 1973.

[32] "Planning Association Honors Calgary Man," The Albertan November 1, 1950.

The Growth of Public Concern

With the surge in urban growth following World War II, greater interest in town planning matters developed. The first significant step was the hiring of Jack A. Lamb for the newly created position of Town Planning Engineer in May, 1946. Town planning was also encouraged by the visits of well-known planning experts. For example, a branch of the Community Planning Association of Canada was formed in February 1947 on the urging of a well-known Canadian planner, Alan H. Armstrong.[33] The association was formed to foster public understanding of and participation in community planning.

Calgary newspapers often emphasized the necessity for better planning. Editorials occasionally promoted the long-standing rivalry between Edmonton and Calgary as a means of encouraging planning improvements in Calgary. One editorial, for example, praises Edmonton and criticizes Calgary:

> ... Edmonton ... has engaged a permanent, full-time, highly trained town planner from Chicago. Calgary, meanwhile, has a town planning engineer and a Town Planning Commission, but they are engaged mostly in rezoning this or that property, deciding what lanes should be closed and so on. There is no over-all planning of any consequence, no master plan for the growth of the city. Calgary is suffering badly from lack of planning in the past, and is determined to do

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[33] The Albertan February 27, 1947.

no better in the future.[34]

On June 8, 1948, Council requested the Town Planning Commission to determine "the desirability of securing a town planning expert for the city, together with a statement of definite cost of engaging such services."[35] This request resulted in letters being sent to planning officials in the cities of Regina, Ottawa and Vancouver, enquiring as to the cost involved in undertaking and putting into effect a general plan. On November 25, 1948, the Town Planning Commission recommended that City Council authorize the preparation of a "Master Plan of Town Planning to be commenced as early as possible in 1949 under the jurisdiction of the city engineer and ... engage additional staff ... including a consultant from time to time."[36] Further action, however, was not taken until November, 1949 when Eric W. Thrift, director of the Winnipeg Metropolitan Planning Commission, was appointed as consultant. As Mr. Strong observed at the time: "He has spent the last five years in preparation of the Metropolitan Plan for Winnipeg and I feel that his qualifications for our work will be the best and that we should recognize his recommendations as nearly as possible."[37] Mr. Thrift was responsible for instituting several important planning and administrative changes in quick succession. These comprised:

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[34] Editorial, "Edmonton Ahead of Calgary," The Albertan, August 29, 1949.

[35] Minutes, Town Planning Commission, June 10, 1948.

[36] Ibid., November 25, 1948.

1. the organization of the planning department,
2. setting up a Technical Planning Board,
3. the introduction of interim development, and
4. initial work on the comprehensive plan.

Following Mr. Thrift's appointment, the Planning Department was begun under the direction of the City Engineer's Department. Mr. Thrift recommended the hiring of a permanent town planner, A.G. Martin, who retained this position until 1968. Furthermore, Mr. Thrift suggested the additional planning staff required and estimated the Planning Department budget.[38]

Setting up a Technical Planning Board

Like Calgary, Edmonton was also experiencing serious development problems in the late 1940s. In coping with the situation, Edmonton City Council appointed its first town planner in late 1949 and also engaged the services of two planning consultants to study the state of Edmonton's physical and administrative planning problems. They pointed out the inefficiencies of Edmonton's Town Planning Commission and recommended, as an alternative, the establishment of a technical planning board to handle the technicalities of town planning. The consultants recommended that the technical planning board consist of the department heads who were most involved in problems of physical development so that there could be collective advice on the development of the city. The consultants recommendation led directly to the amendment of the 1942 Planning Act in April, 1950, allowing for the establishment of technical planning boards in the province.[39]

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[37] Letter from J. Ivor Strong to J.M. Miller, City Clerk, November 9, 1949.

[38] Letter from Eric W. Thrift, Director of the Winnipeg Metropolitan Planning Commission to J.Ivor Strong, November 8, 1949.

Mr. Strong informed the Town Planning Commission of this new legislation and requested a review of it "for consideration in the near future."[40] Mr. Thrift outlined to the Town Planning Commission in June, 1951, the amendments to the Town Planning Act and on July 19, Mr. Martin, the Town Planner, presented to the Commission _A Brief Outlining Proposed Changes in the Planning Administration For Calgary_.[41] The brief pointed out the inadequacies of the existing planning procedure and emphasized that a technical planning board "would be speedier and less cumbersome" than the Town Planning Commission primarily because the Commission could act only in an advisory capacity.[42] In addition, Mr. Martin pointed out that a technical planning board would act as a coordinating board on all technical and administrative matters. "The function of planning is to integrate as much as possible all the actions and decisions which are likely to affect the development of the city. This function could be more adequately performed and the planning department more closely integrated in the civic organization by a board composed of members who are in daily contact with problems of City development."[43] On August 20, 1951, city council approved Bylaw 4237 providing for the appointment of a technical planning board. The duties of the board were:

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[39] Way May Winnie Chan, _The Impact of the Technical Planning Board on the Morphology of Edmonton_, unpublished M.A. thesis, University of Alberta, Edmonton, 1969, p. 10.
[40] Minutes, Town Planning Commission, December 7, 1950.
[41] A.G. Martin, _A Brief Outlining Proposed Changes in the Planning Administration for Calgary_, City of Calgary Planning Department, July 19, 1951.

> a. Preparing and submitting to Council for its approval a General Plan or scheme of development and zoning by-law or any plan or official scheme authorized by the Town Planning Act.
>
> b. Acting in an advisory capacity in matters pertaining to planning;
>
> c. Promoting public interest in planning;
>
> d. Doing all such acts, matters or things as may be necessary or incidental to the carrying out of such duties.[44]

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[42] Ibid.

[43] Ibid.

[44] Bylaw 4237, A Bylaw of the City of Calgary to Appoint a Technical Planning Board, August 20, 1951.

The Town Planning Commission became an Interim Development Appeal Board to hear appeals from the decisions of the town planner or the technical planning board. In addition to acting as the Appeal Board, it was also the function of the Commisssion to help crystalize public opinion on general planning matters and enlist public support for planning. Appeals from the decision of the appeal board could be taken to the Provincial Planning Advisory Board, which was the final authority.

Interim Development

Although the 1934 Zoning Bylaw was important as a legal device for land use decisions, it was enacted without any reference to an official plan. "Zoning bylaws should be treated as part of an overall planning program, as a primary means of enforcing the land use policies established by a master plan."[45] When work began on the master plan in 1950, the zoning bylaw was found to be too rigid for the preparation of a plan. Mr. Martin commented that under existing regulations much building and development could have taken place that would have seriously affected the objectives of the evolving general plan.[46] While looking forward toward new plans, decisions could still be based on the existing zoning regulations with the result that such decisions could have compromised the intentions of the new plan. In order to implement a new plan, Mr. Thrift and Mr. Martin urged the Town Planning Commission and City Council to take advantage of new provincial legislation allowing for an interim development bylaw to guide the city's growth.

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[45] Chan, op. cit., pp. 4-5.
[46] Martin, op. cit,.

The purpose of the interim development bylaw was to guide the development of the City during the period that the general plan was being worked out. During this time, existing zoning bylaws were to be suspended and planning decisions were to be based on the proposed bylaws to come into effect when the general plan was approved. The new bylaws would then replace the Interim Development Order as the instrument guiding development in the city. On October 10, 1951, the Provincial Government issued an interim development order for the city.[47] Pursuant to the powers contained in the Order, the Council in March, 1952 passed Bylaw 4271, the Interim Development Bylaw.[48] The bylaw was worded in broad terms to give the development officer and the technical planning board wide discretionary powers to implement the proposed general plan.

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[47] Province of Alberta, Interim Development Order, City of Calgary, October 10, 1951.

[48] Bylaw 4271, Being a Bylaw of the City of Calgary to provide for the interim control of development during the preparation of the General Plan for the development of the City, March 31, 1952.

The Neighbourhood Unit Concept

The major objective for hiring a consultant, for the establishment of a technical planning board, and for the use of interim development was to prepare and implement a general plan. Mr. Thrift, in his report, Outline of Studies for a Comprehensive Plan for Calgary, initiated studies for the preparation of a plan.[49] In doing so, he urged the establishment of citizen committees to consider various aspects of the overall scheme.[50] The recommendations of these committees were used in the 1951 report by Mr. Martin, Progress Report on the Comprehensive Plan.[51] In the report, the major problems facing the city at the time were outlined. These included traffic congestion, ribbon commercial development, and land use conflicts arising from poorly located industrial areas. Of importance to this study were those recommendations relating to residential planning and on this point, Mr. Martin suggested that the neighbourhood unit concept be used as the basis for residential design. He stated:

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[49] Eric W. Thrift, Outline of Studies for a Comprehensive Plan for Calgary, 1950.

[50] Minutes, Town Planning Commission, August 15, 1950.

[51] A.G. Martin, Progress Report on the Comprehensive Plan, Town Planning Commission, August 23, 1951.

> Such a unit would be the area reasonably served by the average elementary school. It is hoped that such units can be developed so that a neighbourhood spirit is engendered through common interest in immediate local affairs, that they will be areas that are not to be invaded by major traffic streams and will therfore produce the safe and healthy living environment set out as an objective at the outset.
>
> At the same time it is also hoped that these unit areas will have ready access to good thoroughfares and transit service and that good local shopping will be quite readily available. These are understandably contributing features in making an area a thoroughly desirable place to live.[52]

CONCLUSION

This discussion has focused on those elements which led the way towards major changes in residential planning for the city. The collapse of the 1908-12 land boom placed large areas of land under city ownership thereby allowing for strong planning controls in later years. Post World War II growth was accommodated initially in the previously subdivided gridiron subdivisions. The gridiron pattern though, did not provide enough land at central locations to accommodate schools of the size required to serve the increasing population, and the large demand for housing lots frequently caused a shortage of land for parks. In addition, commercial facilities were often inconvenient and in conflict with other land uses, particularly housing.

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[52] *Ibid*,. p. 5.

The planning administration was unable to cope effectively with these problems which resulted in steps being taken to improve and strengthen planning controls. The first step was the hiring of a planning consultant. This was quickly followed by the appointment of a technical planning board, the approval of interim development as the instrument to guide the city's growth, and initial work on the comprehensive plan. More effective planning controls then enabled planners to recommend the use of the neighbourhood unit concept as part of the evolving general plan.

CHAPTER III

INITIAL USE OF NEIGHBOURHOOD UNIT PRINCIPLES 1948 - 1954

This chapter begins with the examination of the application of the neighbourhood unit concept in Calgary. The discussion centres on the residential planning and development which occurred in the years between 1948 and 1954, a period when the traditional gridiron pattern of land subdivision was replaced by a modified pattern incorporating some neighbourhood unit prinicples. Although several modified gridiron areas were designed after 1954, the planning period was concluded then because it was in 1954 that the planning and development of complete neighbourhood units first began. Briefly, this period can be described as a time of rapid growth and change; a time when new ideas were discovered, discussed, and implemented.

Although the neighbourhood unit concept was first proposed by Perry in 1929 in New York, it was not widely known and only began to gain popularity in Canada during the years of rapid growth beginning in the late 1940s. At this time, with a generally greater interest in town planning and the availability of a larger number of trained planners, new planning ideas made their way to Calgary.

It is the purpose of this section to describe and briefly explain the initial application of neighbourhood unit principles in Calgary. Special attention was given to learning where new ideas originated, whether or not any residential planning goals were clearly defined and if alternatives were evaluated. The discussion opens with a review of the influence of the federal agency, Central Mortgage and Housing Corporation, on residential planning in Calgary and continues with an analysis of the effects of replotting schemes. The chapter then concludes with a general review of the modified gridiron pattern, followed by a case study of one residential area of the city planned and developed during the study period.

CENTRAL MORTGAGE AND HOUSING CORPORATION

Most of the loans for housing constructed in Canada throughout the period covered by this thesis have been guaranteed by the federal government through a series of national housing acts which began in 1944. The initial act authorized the establishment of a new crown agency, Central Mortgage and Housing Corporation (C.M.H.C.) which was charged with carrying out the terms of the Act, viz, "to promote the construction of new homes, the repair and modernization of existing houses and the improvement of housing and living conditions."[1] Furthermore, and more importantly from the point of view of this study, C.M.H.C. was required to encourage the development of sound community planning.[2]

Although the responsibility for urban planning rests with the provinces and municipalities, C.M.H.C. has had a strong influence on the planning of residential areas throughout the country. As an insurer or lender of housing, C.M.H.C. was eager to protect its investment and, because of this concern, insisted on reviewing subdivisions which involved housing loans under the Act. In Calgary, subdividers often had to make changes in their plans to satisfy C.M.H.C. requirements.[3]

To raise the quality of housing and at the same time keep costs down, C.M.H.C. began to encourage the adoption of minimum standards based on concepts of public health. The first step towards this objective was the encouragement of the use of planned house groupings. An early and noticeable result of this policy was the housing constructed for war veterans and armed forces personnel. As an example, in 1947, to ease a severe housing shortage, a civic housing committee requested C.M.H.C. to provide for 500 houses for war veterans.[4] After evaluating alternative locations for the housing, a C.M.H.C. official adivsed city council that it was more economical to build a large-scale development in a centralized area than construct homes in small groups all over the city.[5] Accepting this advice, in late 1948, city council passed a resolution permitting the construction of 300 houses in a planned unit development in Renfrew, a north eastern neighbourhood.[6]

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[1] Government of Canada, National Housing Act, Ch. N.-10, 1970.

[2] Central Mortgage and Housing Corporation, Site Planning Handbook, 1966, p. 3.

[3] Minutes, Technical Planning Board, June 7, 1954 and June 15, 1958.

REPLOTTING SCHEMES IN CALGARY

Primarily because of C.M.H.C.'s preference for planned unit developments, the city, rather than allowing housing construction to continue on the gridiron pattern, began to make modifications to the subdivided land by incorporating variations based on neighbourhood unit principles. These changes included curved streets, culs-de-sac, centrally located parks and schools, and easily accessible neighbourhood stores.

Provision for subdivision changes was made in Section

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[4] *The Albertan*, February 18, 1947.
[5] *Ibid*., March 10, 1948.
[6] *Ibid*., August 17, 1948.

37 of the Town Planning Act under replotting schemes.[7] Briefly, a replotting scheme is the cancellation of an existing plan of subdivision, the consolidation of any parcels of land within the subdivision into one area and, finally, the planning of a new subdivision of the consolidated area. The land in the new subdivision is then redistributed among the owners of lands in the cancelled subdivision. To make this possible, the Planning Act required that owners of 60 percent of the number of parcels of land had to agree to the replotting scheme. In Calgary, most replots were relatively easy due to the fact that large amounts of land had been acquired by the city through tax defaults.

THE MODIFIED GRIDIRON PATTERN

Planning Area

The modified gridiron pattern was employed initially in several areas of the city which, for various reasons, had remained undeveloped. For example, in 1948, the Renfrew subdivision replaced the old municipal airport; St. Andrew's is located on what was formerly a golf course; and Knob Hill (1948-1951) was an area which had remained vacant because part of it was required for training purposes by a nearby armed forces station. At the same time as the planning and development of these areas was underway, several other areas which had originally been subdivided on the gridiron pattern were also being modified. Mountview (1948), Houndsfield Heights (1950), Capitol Hill (1950), and Briar Hill (1951-52) are among the many examples.

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[7] Planning Act, 1942, Chapter 169, Section 37,

Figure 9 indicates those areas which were subdivided on the gridiron pattern during the 1908-12 land boom but have since been replaced by modified designs. Some of the areas which were modified were very small comprising only a few blocks (e.g. Killarney) while others were quite large, sometimes encompassing several hundred acres. (e.g. Briar Hill, Renfrew) No definite criteria for determining the size of a modified plan seems to have been used although the timing of development appears to have had an influence. If it was decided that modifications would unduly hold up the development process, the Town Planning Commission and, later the Technical Planning Board usually recommended that most if not all of an area retain the gridiron pattern.[8] However, in areas where agreement among landowners on a new design was obtained easily, larger areas could be considered for modification.

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[8] Minutes, Town Planning Commission, January 19, 1950.

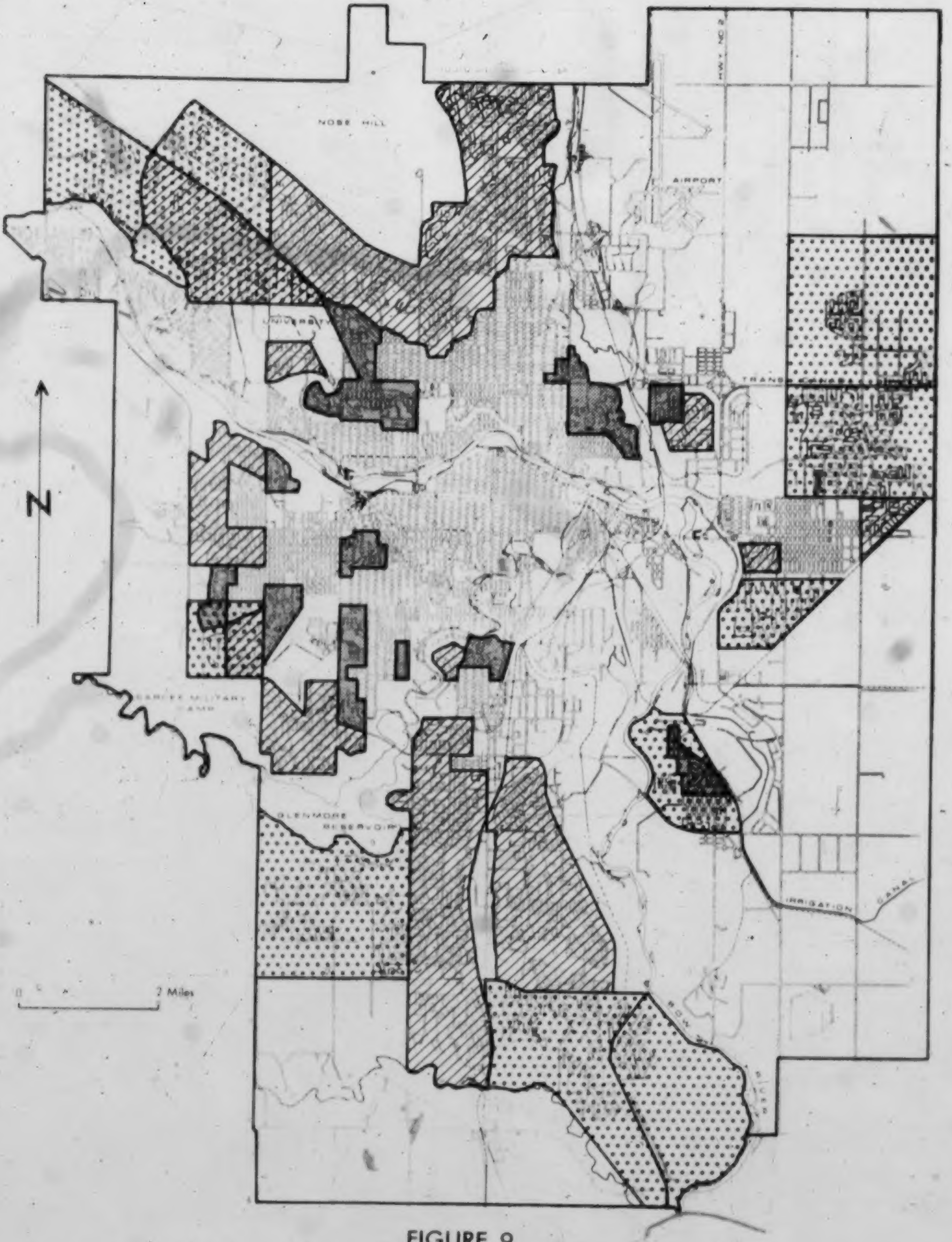
NOSE HILL
AIRPORT
HWY NO 2
UNIVERSITY
TRANS
N
SARCEE MILITARY CAMP
GLENMORE RESERVOIR
IRRIGATION CANAL
BOW RIVER
0
2 Miles

FIGURE 9

MODIFIED GRIDIRON NEIGHBOURHOODS, NEIGHBOURHOOD UNITS, AND APPROVED SECTOR-DESIGN BRIEF PLANNING AREAS IN CALGARY 1948-1974

▦ MODIFIED GRIDIRON PLANNING AREAS

▨ NEIGHBOURHOOD UNIT PLANNING AREAS

⠿ SECTOR-DESIGN BRIEF PLANNING AREAS

Source: Calgary Planning Department and City Clerk's Files and Reports

Size was also limited by the existence of surrounding developed areas. Care had to be taken to tie the modified design into the existing gridiron pattern and, as a result, some gridiron areas had to remain unchanged. Generally, though, as planning became more sophisticated and as larger and more distinct planning areas became available, more effort was made to modify residential designs.

Road Pattern

It is evident from the modified gridiron designs that planners were attempting to implement a policy of restricting through traffic. Despite this objective, it is also apparent that no clearly defined street design principles were used at the time. Most of the streets in the modified gridiron areas have a random pattern without any specific destinations and no sense of unity.

Although limitations exist with the street design, some notions proved to be very effective and were frequently repeated. For example, one notable plan was the use of a service road in Renfrew to segregate residential areas from the heavy traffic on 16th Avenue, a major arterial.[9] In another instance, the route of an arterial, Sifton Boulevard was changed to divert traffic further west. With this change, through traffic was discouraged from entering a strictly residential street "thus enhancing its value as a residential street."[10]

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[9] Ibid., June 7, 1951.

Local Shops

As with street design, during this period, planning goals for the provision of neighbourhood stores had not yet been clearly thought out. In several modified gridiron areas, sites were zoned for isolated corner stores and, in some instances, shops were located on all four corners of an intersection. With this type of design, no provision was made for off street parking and little concern was given to traffic congestion, safety, or potential conflicts with adjacent housing. The policy was to zone all land having any claim to commercial potential and the result was far too much commercial space.[11] Furthermore, since all of the commercially zoned land was not developed, it either remained vacant or was absorbed by residential land uses.[12]

The planning period, though, did witness some neighbourhood shopping centre development. Several stores were located together, off-street parking was provided in some cases and, in contrast to earlier times, some thought was given to relating the location to the drawing area and the road pattern.

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[10] Ibid., July 20, 1950.
[11] City of Calgary, General Plan, 1963, p. 49.
[12] Ibid., p. 50.

Parks, Playgrounds, and Schools

It was not until 1953 with the passing of the Subdivision Regulations, that a 10 per cent compulsory reserve dedication was required if subdivision was to take place. Before that time, the city was required to purchase or donate land for parks, playgrounds, and schools. With parks and playgrounds, the usual procedure was for the Town Planning Engineer in consultation with the Parks and Playgrounds Committee to decide upon sites. Occasionally, when modifying a subdivision, a parcel which had previously been set aside had to be exchanged for a more suitable location.[13] At other times, it was discovered that, due to rough terrain, a parcel could not be sold for development and, in these cases, the Technical Planning Board usually recommended that the area be set aside for parks and playgrounds.[14] Parkland could also be set aside, if petitioned for by local residents. This situation occurred, for example, in 1952 in Knob Hill when 162 residents petitioned for a park in their area.[15]

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[13] Minutes, Town Planning Commission, July 20, 1950.
[14] Minutes, Technical Planning Board, July 28, 1954.

In the early part of the planning period, the size of elementary school grounds continued to be based on the standard city block.[16] However, with compulsory dedication, the area set aside gradually increased. In some instances, it was not at first clear why some school locations were chosen. Sometimes they are not central to an area and at other times they appear grouped. Often though, during this period, schools were located so as not only to serve a new subdivision but to accommodate students from adjacent areas as well.

Housing

To preserve and enhance the appearance of newly developing areas, greater concern was expressed for maintaining building quality. Initally, the Town Planning Commission attempted to impose cost restrictions on new housing. For example, in Houndsfield Heights, a minimum investment of $4500 was required in the house and lot.[17] In this particular district, however, a group of property owners who had built their houses prior to the sale of the major portion of the subdivision were afraid that the new houses would not be as high a quality as theirs. To protect their investments, they requested that the restrictions be changed from a dollar to a square foot basis.[18] After further consideration, the Town Planning Commission agreed to the request to the extent of recommending a minimum ground coverage of 1000 square feet for single storey houses and 800 feet for one and a half storey dwellings.[19] No restrictions, though, were placed on the location of these two housing styles within the subdivision.

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[15] Petition from Knob Hill residents to A. Munro, Parks Superintendent, February 10,1952.
[16] For example, see Minutes, Town Planning Commission, February 12, 1948.
[17] Minutes, Town Planning Commission, January 9, 1947.

The building restrictions issue was also influenced at the time by the moving of old houses into new residential districts, chiefly as a result of the expansion of commercial areas. This trend was opposed by some taxpayers who felt that old housing deteriorated the value of their property. After investigating the problem, the city engineer, Mr. Strong indicated that, under the Planning Act, wide powers were given to City Council to adopt architectural control regulations by bylaw.[20] He also pointed out, though, that opinion about architectural appearance varied widely and it would likely be difficult to agree on suitable designs.[21] To settle the issue, Mr. Strong recommended that, as a condition of movement, an agreement be required with the owner of the house to ensure that relocated houses would be brought up to the standard of adjoining properties.[22] This suggestion was later approved by City Council.[23]

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[18] Ibid., February 9, 1950.
[19] Ibid., April 20, 1950.
[20] Letter from J. Ivor Strong, City Engineer to Mayor D. H. MacKay and Commissioner V. A. Newhall, April 17, 1950.

As more areas of the city were developed, stricter building regulations were imposed. Of note, though, is the observation that restrictions varied within and between each district. In St. Andrews, for example, only single family houses with a minimum of 1,200 square feet were allowed on a crescent located on the brow of a hill, but, in the rest of the subdivision, 940 square feet was the minimum. Furthermore, all houses had to have three bedrooms.[24]

By contrast, in Mountview the minimum size for single family housing was 750 square feet and for two family housing, 700 square feet per unit.[25] In all of these regulations, no link was made between the density of subdivision and housing size. In most cases, the restrictions appear to have been based on the recommendations of the developers.

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[21] _Ibid_.,

[22] _Ibid_.,

[23] Letter from City Clerk to Town Planning Commission, September 6, 1950.

[24] Minutes, Town Planning Commission, February 1, 1951.

[25] _The Albertan_, May 29, 1951

KNOB HILL - A MODIFIED GRIDIRON SUBDIVISION

To obtain a better understanding of the planning process which occurred during the planning period and to gain a clearer idea of what a modified gridiron pattern looks like, one subdivision, Knob Hill was selected as a case study. Knob Hill is located in southwestern Calgary (Figure 8). It was chosen as an example because it was one of the first areas of the city where neighbourhood unit principles were used and because more information is available than for the many other districts that were being developed at roughly the same time. Several limitations, though, were faced by using this example. First, an early land use map could not be located and, as a result, it was difficult to relate the planning of Knob Hill to surrounding development. Second, since sections of Knob Hill were modified at different times, the study area was never viewed as a unit; therefore, statistical information on the study area only was not available (Figures 10,11 and 12).

Although an early map could not be located, a map of 1973 land uses was constructed and, to overcome data

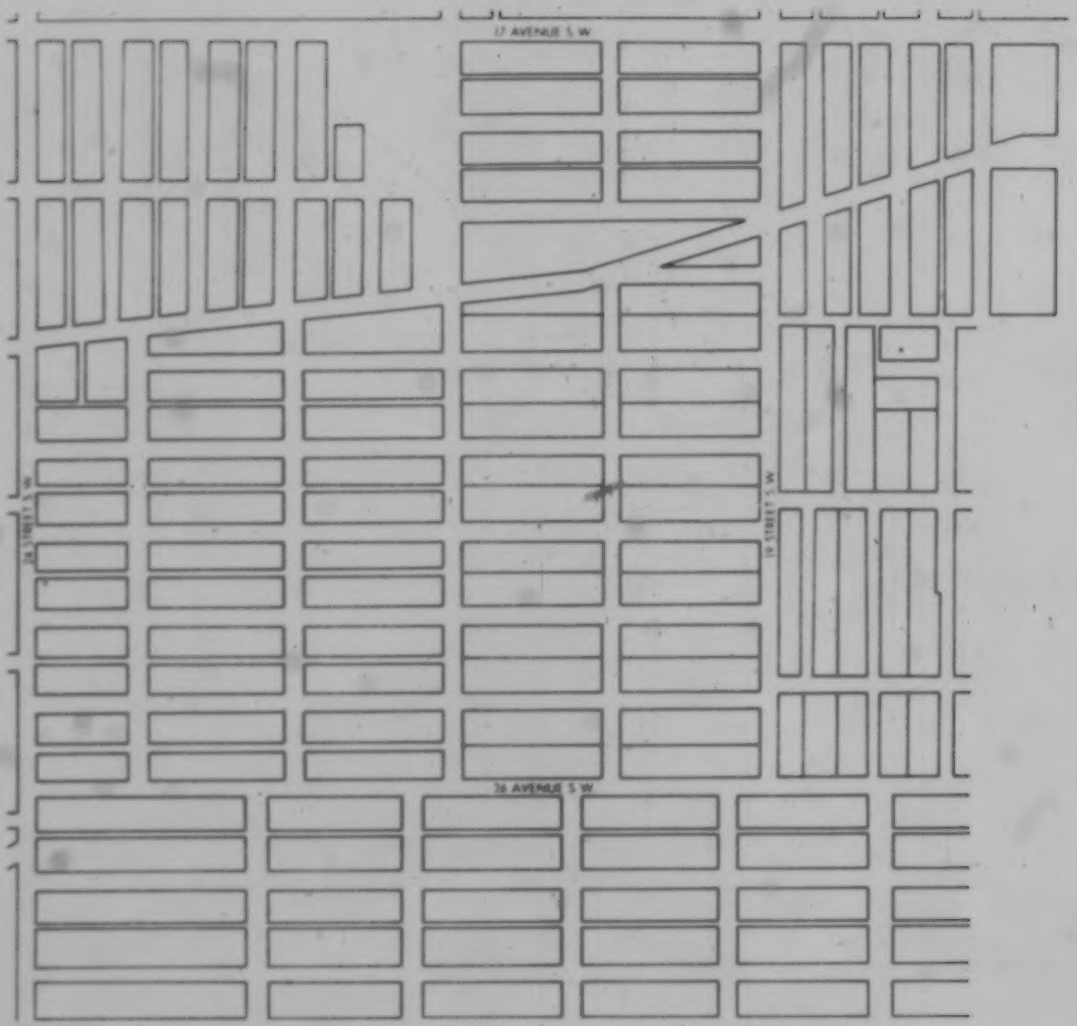
17 AVENUE S W
24 STREET S W
19 STREET S W
26 AVENUE S W
N
0
500 Feet

FIGURE 10

1911 SUBDIVISION

KNOB HILL

Source: City Clerk's Files

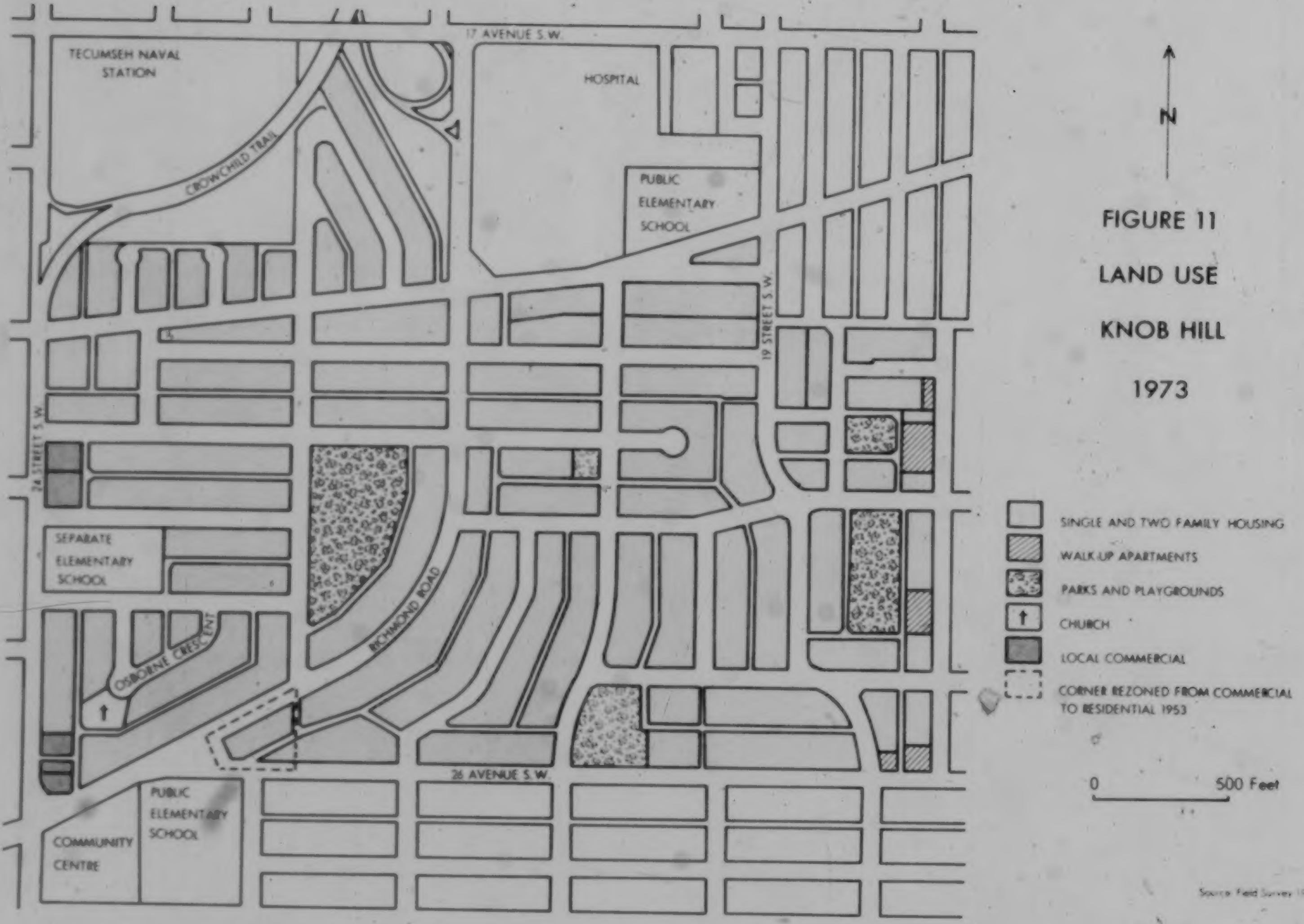
17 AVENUE S.W.
TECUMSEH NAVAL STATION
CROWCHILD TRAIL
HOSPITAL
PUBLIC ELEMENTARY SCHOOL
19 STREET S.W.
24 STREET S.W.
SEPARATE ELEMENTARY SCHOOL
OSBORNE CRESCENT
RICHMOND ROAD
26 AVENUE S.W.
PUBLIC ELEMENTARY SCHOOL
COMMUNITY CENTRE
N
SINGLE AND TWO FAMILY HOUSING
WALK-UP APARTMENTS
PARKS AND PLAYGROUNDS
CHURCH
LOCAL COMMERCIAL
CORNER REZONED FROM COMMERCIAL TO RESIDENTIAL 1953
0
500 Feet

FIGURE 11

LAND USE

KNOB HILL

1973

Source: Field Survey 1973

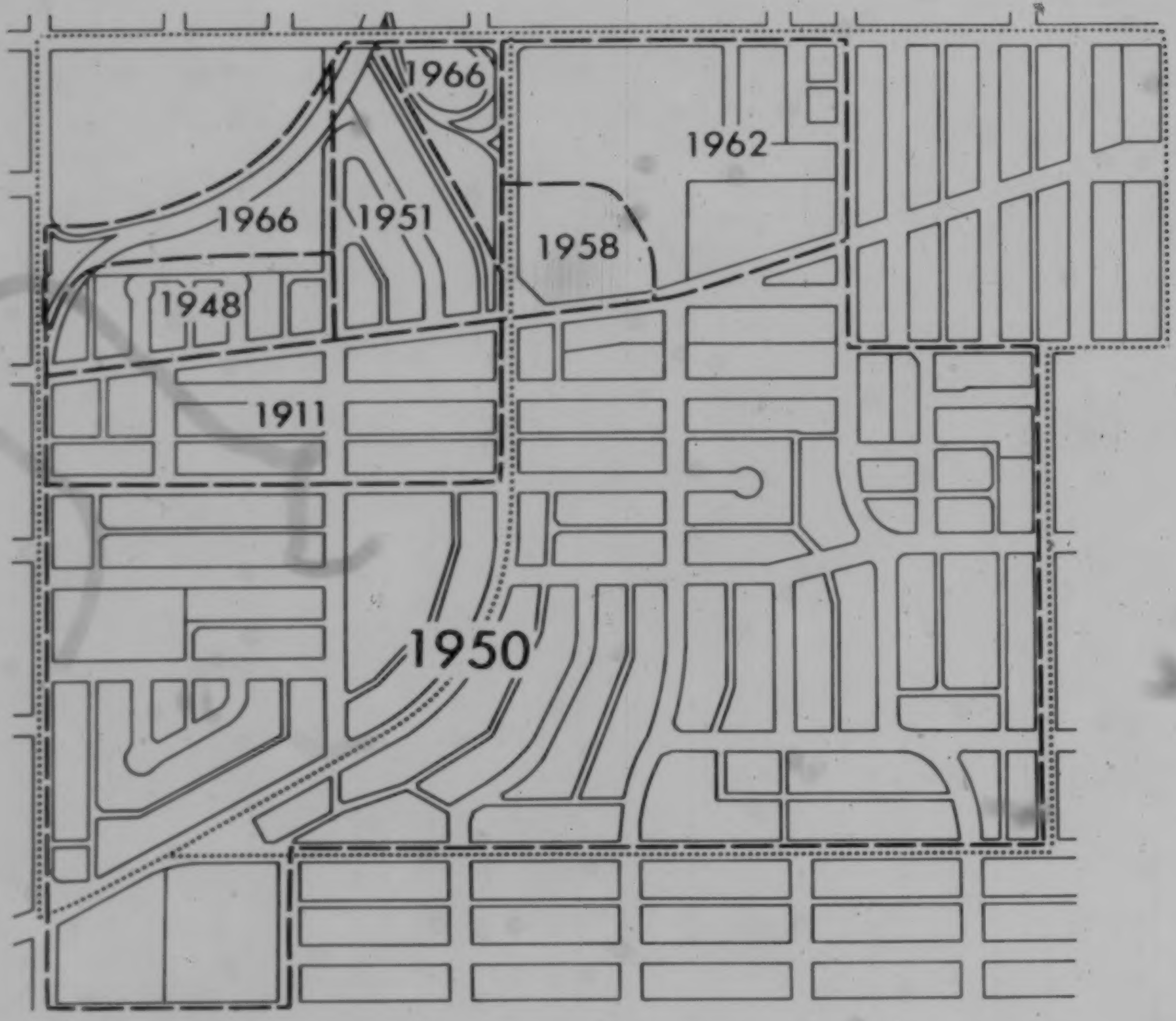
1966
1962
1966
1951
1958
1948
1911
1950
N

FIGURE 12

SUBDIVISION SEQUENCE

KNOB HILL

REPLOTTING SCHEME BOUNDARIES
TRANSPORTATION ZONE BOUNDARIES
0
500 Feet

Source: Land Titles Office, Calgary and
Calgary Planning Department

limitations, planning department transportation zone statistics were used. These zones were established in the 1967 Calgary Transportation Study to aid in planning transportation facilities.[26] Knob Hill takes in two of the zones which together correspond quite closely to the original replot boundaries.

Historical Development

The original Knob Hill subdivision was registered in 1911, during Calgary's first major land boom, but it was not until the late 1940s that the area was subject to development pressures. The first small replot was approved in 1948 and this was followed by modifications in 1950. This plan was subject to many changes. The first version was submitted to the Town Planning Commission by the town planning engineer, Mr. Lamb, in February 1948. It provided for 440 low-cost housing sites and abandoned the conventional gridiron pattern for a curvelinear street layout. In addition, instead of backlanes, each pair of houses was to share a common side driveway. The chairman of the Town Planning Commission rejected the plan and, as an alternative, suggested that the houses should face each other across a common sidewalk with a service street to the rear. In defense, he stated that this was the "latest trend in modern town planning development."[27] The suggestion appears to have been based on the Radburn concept which was discussed in Chapter One. Several other Commission members, though, felt that the plan was unorthodox and doubted that the rear view of residences with garbage cans and washing would be very pleasant from the street. Because they were unable to come to an agreement, the Commission decided to refer the matter to C.M.H.C. officials to determine which type of layout would be most acceptable to them.[28] After consideration, C.M.H.C. recommended another location, Renfrew, for the low cost housing project and the Town Planning Engineer recommended that Knob Hill be retained for private residential development.[29]

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[26] City of Calgary, Calgary Transportation Study, Vols. I and II, 1967.

Subsequently, on November 22, 1948, City Council authorized the preparation of a replotting scheme for Knob Hill and on February 3, 1949, the Town Planning Commission recommended as follows:

> As the city owns more than 60 per cent of the parcels and of the assessed values of the lands exclusive of improvements in the area affected, and in addition a

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[27] The Albertan, May 29, 1951.
[28] Ibid.
[29] Minutes, Town Planning Commission, March 3, 1948.

> large percentage of the private owners have consented, and as the new Plan has now been prepared and is on file with the City Clerk together with the details of the replotting scheme showing the redistribution of the newly subdivided land among owners of the land in the old subdivision, and as the City will bear the cost of replotting, grading, and surveying the area, it is proposed that Council adopt the scheme as required by the Town Planning Act and that a certified copy of the resolution together with a list of the lots or parcels comprised in the scheme be filed in the Land Titles Office in Calgary.[30]

Finally, on March 13, 1950, the largest replot in the study area was registered at the Land Titles Office (Figure 12). Smaller replots occurred in 1951, 1958, 1962 and 1966 to allow for the development of a hospital and the construction of the Crowchild Trail (Plate 1).

Road Pattern

Perry emphasized that a neighbourhood unit should be bounded on all sides by arterial streets. In addition to improving the safety of the streets within the neighbourhood, this enables the residents and the public in general to see the physical limits of the community and to visualize it as a distinct identity. "Like a fence around a

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[30] *Ibid.*, February 3, 1949.

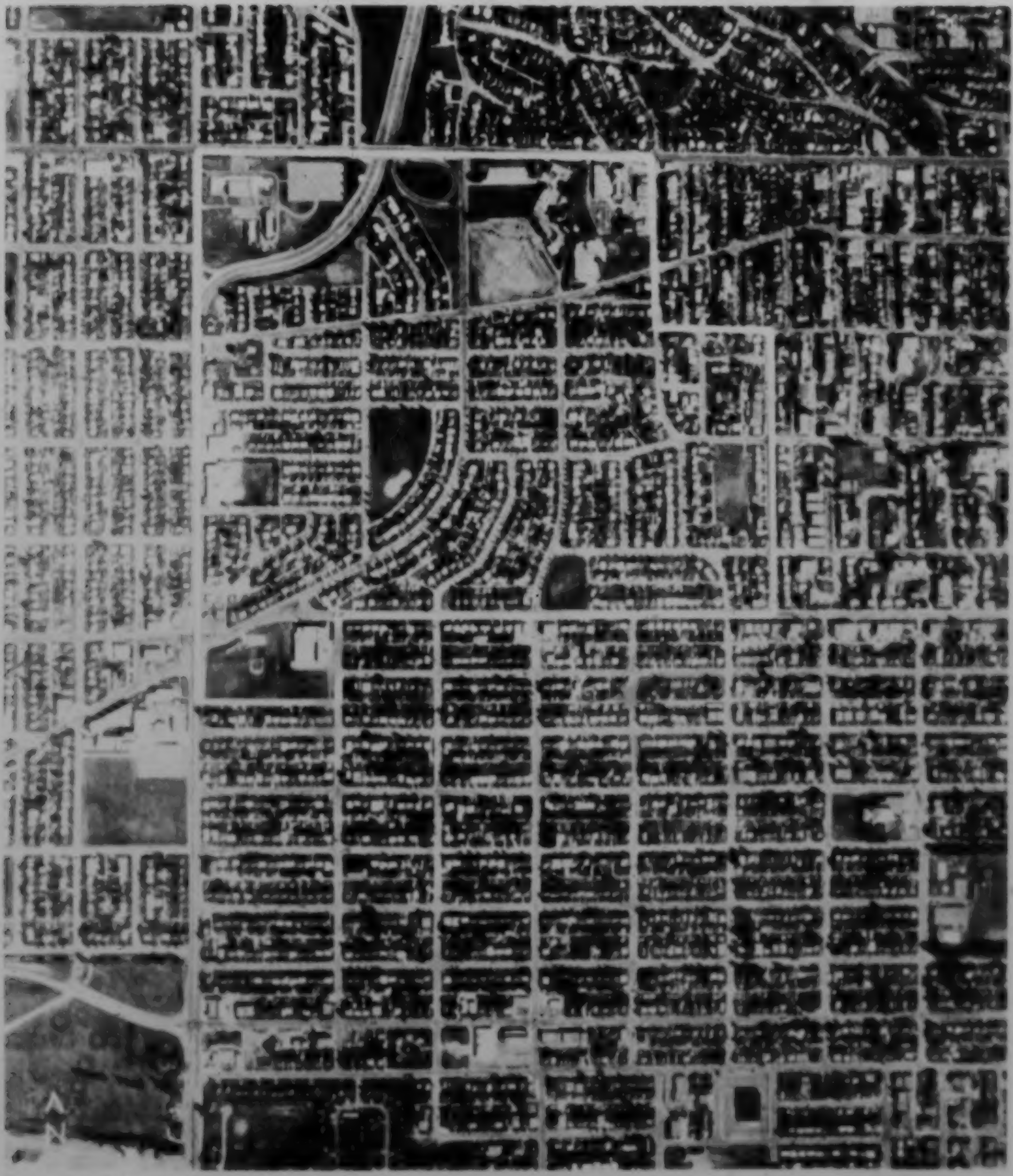

Plate 1

Knob Hill Modified Gridiron Neighbourhood

0 1000 Feet

Source: Machair Survey Ltd., Calgary, 1974 lot, they [arteries] heighten the motive for local improvement by defining the area of responsibility."[31]

At the time Knob Hill was planned, the establishment of neighbourhood boundaries was not followed as a planning principle. The planning emphasis was on the inclusion of some street design variation but, at the same time, the integration of the subdivision with surrounding districts. In more recent times, though, with heavier traffic and the construction of major arterials, some boundaries for Knob Hill have evolved. A distinct boundary was established on the west side with the upgrading of 24 Street from a residential street to a major expressway, the Crowchild Trail. Heavier traffic, on both 17 and 28 Avenues has encouraged these routes to be viewed as boundaries but in a much less distinct way than Crowchild Trail.

Probably the most distinctive feature of Knob Hill in comparison with surrounding areas is the road pattern. Fewer through streets are provided than before and, in addition, the design includes several curved streets, a cul-de-sac, and a crescent. A more aesthetically pleasing and safer environment is the result.

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[31] Clarence Perry, Housing For the Machine Age, Russell Sage, New York, 1939, p. 57.

Despite these improvements, several limitations to the street pattern are evident. To begin with, all the streets have the same width, 66 feet. They were not designed according to their probable traffic load as suggested by Perry. Furthermore, Richmond Road is a through street which tends to split the area. Streets not intersecting at right angles is another design fault. Safety is reduced because drivers cannot clearly see oncoming traffic. The design also tends to be confusing. For example, it is difficult to find Osborne Crescent if approaching from the east.

Size

According to Perry, the size of a neighbourhood should coincide with the drawing area of an elementary school. Depending on the community, though, the drawing area could vary widely. The most reasonable approach, Perry suggested, was to adopt the standard followed by the local school board. At the same time, he advised that the neighbourhood should have a population ranging from 3,000 to 6,000 and an area no greater than 200 acres.[32]

In the planning of Knob Hill, no relationship was drawn between the elementary school drawing area and the size of the neighbourhood. Size was based on the amount of open land that happened to be available and the number of landowners who could agree to a new design.

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[32] *Ibid.*, p. 53.

Knob Hill has two elementary schools, Knob Hill Public Elementary and St. Charles Separate. Neither is centrally located and their drawing areas include large sections of adjoining subdivisions. This situation occurred, first, because the new street design had to tie in with existing development and, second, because the schools were located to serve the existing residential areas as well as the new area. At the time Knob Hill was planned, all schools in the city were overcrowded. Schools were located in adjacent districts (e.g. Bankview) but they could not accommodate the demand.

It is interesting to note that, using 1973 statistics, Knob Hill is close to Perry's suggested size. It has an area of 212 acres and a population of 2715.[33] The gross density is low because the area includes a hospital and the naval station.

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[33] City of Calgary Planning Department, Statistical Table 7, "Population and Dwelling Units in Metropolitan Calgary by Transportation Zones, "January, 1973 and, Statistical Table 14, "Land Area of Metropolitan Calgary in 1972 by 1964 Transportation Zones," July, 1972.

Parks and Playgrounds

Perry pointed out that no hard and fast rule can be laid down as to the amount of land that should be set aside for parks, playgrounds, and schools.[34] After studying several neighbourhood examples he concluded that 10 per cent was "a good figure to aim at."[35]

In Knob Hill, approximately 16 acres have been set aside, somewhat less than 10 per cent of the total area. It must be pointed out that these areas were acquired before the 10 per cent reserve dedication was required. Playground and park areas are scattered throughout the replot but the largest is centrally located for easy accessibility by all Knob Hill residents. The two smaller parks in the eastern section are on sloping land and do not appear to have much recreational potential. Generally, the location of parks and open space empahsizes the fact that the area was planned to be integrated with the surrounding areas. As a result, open space within Knob Hill is not restricted to Knob Hill residents.

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[34] Perry, op. cit., p. 59

[35] Ibid.

Neighbourhood Stores

As suggested by Perry, local shops in Knob Hill are located on the circumference of the unit. Two service stations and the Tecumseh Shopping Centre were located on the west side and a small group of shops was located on the corner of 28th Avenue and 20th Street in the Altadore neighbourhood to the south of Knob Hill. The Tecumseh shopping centre originally appears to have contained a small grocery store and possibly a drug store and a barber shop. By 1973, however, some units within the centre were vacant and others are occupied by commercial functions having drawing areas larger than the neighbourhood (soft drink outlet, organ sales, real estate office) (Plate 2). The decline in the economic viability of the centre may have been due to the allocation of too much commercial space. This danger was pointed out by Perry, but he also admitted that it was difficult to determine the exact requirement.[36] The amount of commercial land set aside in Knob Hill may have been excessive. As evidence of over-zoning, the corner of Richmond Road and 28 Avenue, originally zoned commercial on the recommendation of the town planning engineer, was later rezoned for housing.[37] In addition, one of the service

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[36] Ibid., p. 68.

[37] Letter from J. A. Lamb to J. M. Miller, March 16, 1950 and letter from City Clerk to A. G. Martin, June 9, 1953.

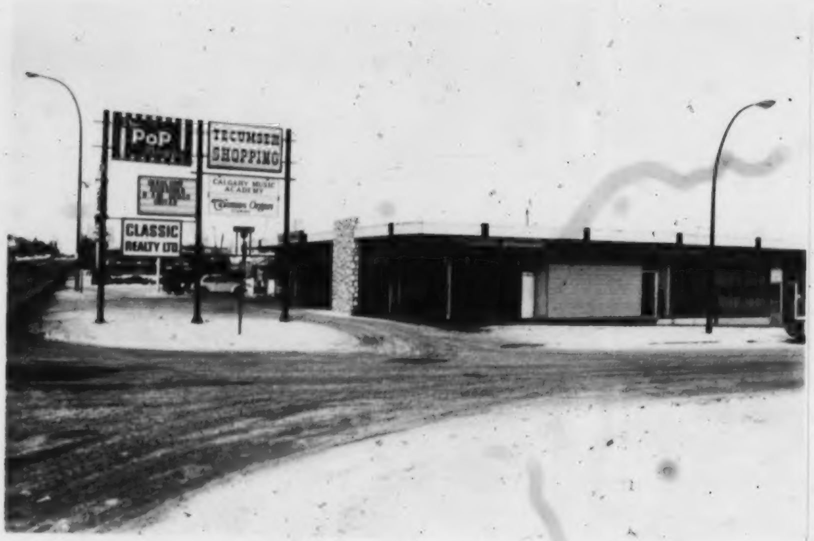
PoP
TECUMSEH SHOPPING
CALGARY MUSIC ACADEMY
CLASSIC REALTY LTD.

Plate 2

Tecumseh Shopping Centre, Knob Hill

stations was converted to a tire shop. The development of regional shopping centres in the 1960s also likely had an important influence by drawing customers away from local shops.

Churches

In Calgary, until quite recently, churches were permitted anywhere in residential areas. This policy evolved because it was concluded that churches and houses were not incompatible uses. Many churches, though, have not been well located and lack of parking and excessive traffic are evidence of this. In Knob Hill, a church on Osborne Crescent is an example of church location problems. Parishioners are drawn from an area much larger than the neighbourhood, and to reach the church they must use residential streets. In addition, only a small amount of off-street parking is provided at the rear of the church, so parishioners must either drive through back lanes to reach the church or park on the front street. Either way, adjacent housing is affected by the excess traffic.

Housing

A major objective of the neighbourhood unit concept is the protection of property values. By implementing a unified design and by imposing building restrictions, it was hoped that the deterioration of properties would be avoided. With Knob Hill, care was taken to establish building restrictions before any lots were sold. After discussions with building contractors, the Town Planning Engineer recommended, for the area west of Richmond Road, a minimum ground coverage of 800 square feet for each single storey house and for two storey, 600. For the more attractive lots east of Richmond Road, a minimum area of 900 square feet was suggested for single storey buildings and 650 square feet for two storey houses.[38]

The entire area, apart from the replot areas approved in 1948 and 1951, and part of a block abutting Bankview was zoned for two family housing and of this area, forty per cent was developed with two family housing, but, since the house and the basement suite is the most common form, the effect has been to produce an impression of scattered two family development within what at first appears to be a predominantly single family residential area[39] (Figure 11). At the time, basement suites were allowed to help ease a high demand for housing, but they may have contributed to a noticeable deterioration of housing quality in Knob Hill.

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[38] Letter from J. A. Lamb to J. M. Miller, City Clerk, September 29, 1949.

[39] City of Calgary, General Plan, 1963, p. 50.

All of the houses are now at least 25 years old and many are in need of repair. Since the plan was a replot, some older housing was included. The mixing of different ages of housing may also have contributed towards the deterioration problem.

The lack of a distinctive boundary for Knob Hill also appears to have an influence on the housing situation. In 1964, an application was made to rezone part of the north-eastern section to permit duplexes and walk-up apartments. The Calgary Planning Commission, successor to the Technical Planning Board, was unsure whether the lots in question should be included in the new residential district of Knob Hill or in the apartment district of Bankview. After consideration, the Commission concluded that the area belonged in Knob Hill and refused the application.[40] This example illustrates how it is possible for a more recently developed area without a distinct boundary to be influenced by land uses from an adjacent older area.

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[40] Minutes, Calgary Planning Commission, December 23, 1964.

CONCLUSION

This planing period marked a significant turning point in the design of Calgary's residential areas. The period can best be described as one in which planners groped for concepts and standards. It is obvious that clearly defined planning goals had not yet been established and the general approach seems to have been one of experimentation with new ideas, ideas which emanated from several sources.

The most important impetus for change came from Central Mortgage and Housing Corporation, the first to recognize the advantages of house groupings and planned unit developments. Also facilitating design changes were the replotting schemes made possible by provincial planning legislation.

In Calgary, through the use of replotting schemes, vacant areas formerly subdivided on the gridiron pattern were modified to incorporate neighbourhood unit principles. Most noticable in the series of modified gridiron neighbourhoods are curved streets and culs-de-sac, allocations of school and park sites, and easily accessible neighbourhood shops. Knob Hill, one of the first areas of the city where neighbourhood unit principles were applied, illustrates the limitations as well as the benefits of this subdivision design change. Probably the most important limiting factor was the necessity of tying the new design into existing development. As a result, boundaries are not distinct and the area is generally more subject to influences from adjacent districts.

CHAPTER IV

IMPACT OF PLANNING ADMINISTRATION AND LEGISLATION ON RESIDENTIAL DEVELOPMENT 1954 - 1963

Most immediate post-war growth in Calgary was absorbed in the existing gridiron subdivisions or in modified gridiron neighbourhoods like Knob Hill. By 1952, though, nearly all of this type of residential land which was serviced by the existing sewer and water systems, had been developed. After this time, to house the large population increase which has, from 1940 to 1970, averaged over 12,000 people per year, new residential areas were subdivided.[1] The plans used in these new areas marked a significant departure from pre-1952 plans principally in that much more extensive use was made of neighbourhood unit principles. For the most part, this change was due to the establishment of a new planning administration, the introduction of more restrictive planning legislation, and the use of more rigorous planning procedures. This chapter focuses on those factors which had the most influence in encouraging the use of the neighbourhood unit concept in Calgary between 1954, the year the first major subdivision using neighbourhood unit principles was approved, and 1963, when the General Plan was approved. This marked the introduction of a new residential planning concept to Calgary, sector planning.

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[1] City of Calgary, The Calgary Plan, 1970, p. 1.1.

ANNEXATIONS

The major purpose for the creation of a new planning administration in 1950 was to develop a master plan to guide the rapid growth of the city. Part of the work on the master plan included forecasting the city's future population size and density patterns, from which the actual area required for development could be estimated. The 1953 Report on Housing the Metropolitan Population outlined the procedure:

> At the present time, of every 100 acres of newly subdivided land, some 45 acres needs to be set aside for roads, schools, minor parks, and commercial areas leaving about 55 acres for subdivision into lots. Under the existing regulations, residential plots must have at least a 50 foot frontage and the average depth will be about 120 feet, making a lot area of approximately 6000 square feet. On a grid layout and on flat land, it would be possible to obtain some 400 lots in the 55 acres referred to above. Using the figure of 3.7 persons as the average size of family, some 1,480 persons could be housed on the 400 lots, (or 100 gross acres), giving a density of 14.8 persons per gross acre in a single family residential zone.[2]

It was also noted that in areas where informal layouts are substituted for the grid layout and where the terrain is more difficult, the densities are not as high. As a result, a general figure of 12 persons per acre was taken as the minimum density in new areas.

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[2] City of Calgary, An Outline Report on Land Requirements for Housing the Metropolitan Population, Calgary, 1953-1981, July, 1953, p. 4.

On the basis of the forecasts of population growth and land needs, extensive areas were annexed to the city. Calgary's annexations can be classified into three categories. First, annexations were granted following application by some of the small unincorporated communities and private land developers who requested in their applications the extension of the City's services and utilities. Second, annexations were granted following application by the City to make land available for residential development from year to year. Finally, there were large scale annexations which were granted in accordance with the long-range plan.[3] With large annexations, it was possible to plan for larger land units. Planning then became more comprehensive, in two senses. It was possible to plan whole neighbourhood units in great detail, and to plan for an orderly sequence of development, including the extension of utilities over large areas. Neighbourhoods were designed to be self-sufficient in convenience services but, at the same time, integrated with one another and with the city as a whole. Comprehensive development also encouraged uniform standards of development.

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[3] A.G. Martin, "Land Development in Calgary," Habitat, Vol. 5, No. 3, (1962), p. 18.

A rapid population increase led to larger planning units but land ownership also had an important influence. Once the long-range plan was developed, it was known which areas were to be developed next. With this information, private developers bought up large areas of land in anticipation of development. Large tracts of land under fewer ownerships contributed towards more comprehensive planning as fewer difficulties were encountered in arranging for the design and servicing of the properties. This situation encouraged the use of the neighbourhood unit concept, a concept which requires a relatively large area to be treated as a planning unit.

REGIONAL PLANNING

As early as 1946, the Town Planning Commission voiced concern over the development of land outside the city. After careful research the city solicitor advised that he could not find any powers given to the city to exercise jurisdiction over property adjoining the city limits. He did point out, however, "that the act provides for the setting up of a Commission to act in conjunction with Commissions of adjoining municipalities."[4] Subsequently, in 1951, through initiative from the City of Calgary, the Calgary and District Regional Planning Commission was set up. The Planning Act outlined the functions of the Commission, the central one being the preparation of a regional plan. In addition, the Commission was:

> to advise and assist the council of any municipality represented on the commission
>
> (i) in the planning and orderly development of the municipality, and
>
> (ii) on matters affecting planning and orderly development that are of common concern to the municipality and any other municipality or the Province.[5]

The establishment of the Commission was an important step in guiding the orderly and economical development of the city because, as the City of Calgary was a member of the Commission, the Technical Planning Board of the City and the District Planning Commission worked in close association with each other when considering development proposals adjacent to the city. As the general plan evolved, and it became known what areas outside the city boundaries would be required in the future, the District Planning Commission was able to ensure that they were not prematurely subdivided. Premature subdivision can seriously restrict the planning of neighbourhood units but, due to the careful subdivision control exercised by the District Planning Commission, large unsubdivided areas remained available for later overall planning and development. As an example, the owners of property within one area outside the City limits had made several applications for small subdivisions. The District Planning Commission in cooperation with city officials, however, had maintained the following policy:

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[4] Minutes, Town Planning Commission, October 17, 1946.

[5] Province of Alberta, Town and Rural Planning Act, Chapter 337 Revised Statutes of Alberta, 1955, Section 14(b).

> (1) the area had great possibilities as a district which could be developed with high class suburban houses in large parcels and these possibilities would not be realized if owners were allowed to make their own individual arrangements.
> (2) all subdivision applications had therefore been refused....

The Technical Planning Board went on record as "heartily approving the policy so far followed, and the Municipal authorities and the Calgary District Planning Commission were to be congratulated on their foresight."[6]

PLANNING LEGISLATION AND RESIDENTIAL DEVELOPMENT

Residential planning controls stemmed from several legislative acts. As pointed out earlier, the 1950 amendment to the Planning Act allowed a council to appoint a technical planning board and this the City of Calgary did in 1951. Of direct significance to the Technical Planning Board and its role in residential development was the Surveys and Expropriation Act for, under the Act, the Lieutenant Governor in Council was given the authority to:

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[6] Minutes, Technical Planning Board, August 15, 1956.

> (a) make such regulations as he deems proper in regard to a plan of subdivision or plan of survey that it is proposed to register under The Land Titles Act.
>
> (b) impose and collect such fees or charges upon and from a person proposing to register a plan of subdivision as he deems proper, and
>
> (c) make such reservations from the area of any land included in a plan of subdivision for school or other public purposes as he deems proper.[7]

Pursuant to the Surveys and Expropriation Act and the Planning Act, the Subdivision Regulations and the Transfer Regulations were passed in 1953 and 1954 respectively.[8] Under these regulations, the approving authority for all subdivisions in the city and the metropolitan area were vested in the Technical Planning Board of the City and the Calgary District Planning Commission respectively. Mr.

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[7] Province of Alberta, The Surveys and Expropriation Act, Chapter 328, Revised Statutes of Alberta, 1955, Section 6, Subsection (1).

[8] The Subdivision Regulations passed by O.C. 969-53, Alberta Gazette, July 15, 1953: and The Town and Rural Planning (Transfer) Regulations - O.C. 167-54, Queens's Printer, Edmonton.

Martin pointed out that this was a very effective planning tool, "firstly in giving positive guidance to residential development within the general plan, and, secondly in preventing premature breakdown into smaller parcels in areas which were scheduled for expansion."[9]

The Subdivision and Transfer Regulations have had a major impact on residential land use by providing detailed standards and guidelines for the subdivision of land. Under the regulations, subdivision means "an area of land which has been divided into two or more parcels whether by plan or by discription or otherwise," and transfer means "any such sale, lease, mortgage or charge or agreement to sell, lease, mortgage or charge or any other document or act as is referred to in section 25(1) of the Act."[10] Within the terms set by the definitions, the regulations specified conditions which had to be met before land could be subdivided or transferred. Section 4 states:

> No land shall be subdivided unless it is suited to the purpose for which it is intended, having regard to:
> (a) the nature of the soil,
> (b) surface drainage,
> (c) the danger of (i) flooding,
> (ii) subsidence,
> (iii) erosion,
> (d) accessibility, and

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[9] Martin, op. cit., p. 18.

[10] Subdivision Regulations, Section 2, and Transfer Regulations, Section 2.

> (e) the use of the land in the immediate vicinity.[11]

After the feasibility for subdivision was determined, further restrictions were imposed. Section 14 states:

> Land shall only be subdivided in the manner which is most desirable and practicable, taking into account;
>
> (a) the topography and physical condition of the land;
> (b) the use or proposed use of the land;
> (c) the economical use of land with respect to the proportion of the area devoted to streets and lanes;
> (d) the segregation of traffic flow as between main thoroughfares and minor or residential streets;
> (e) the economical provision of utilities and services;
> (f) the desirability of the view or aspect of each lot or parcel, and:
> (g) the convenience of access to each lot or parcel as the dimensions affect the usefulness of the lot or parcel.[12]

These general principles are basic to neighbourhood unit planning since they correspond closely to several of Perry's principles. For example, Perry advocated the use of arterial streets to divert traffic around a residential area rather than through it. He also suggested that a neighbourhood should be provided with a special street system, with each street being proportioned to its probable traffic load. Similarly, the Subdivision Regulations require the segregation of traffic flow between main thoroughfares and minor or residential streets. The neighbourhood unit concept requires a road hierarchy a requirement which is also implied in Section 14, part(c) - the economical use of land with respect to the proportion of the area devoted to streets and lanes. It is not economical to have wide streets for residential traffic only, since the roads would be underused. The excessive road area could be better devoted to parks or housing.

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[11] Subdivision Regulations, Section 4.
[12] Ibid., Section 14.

SUBDIVISION PROCEDURE

The advent of subdivision regulations was an important step towards more detailed site planning. Equally important, was the refinement of the subdivision approval procedure. To clarify and speed up the approval process, the Planning Department prepared a checklist outlining the order of procedure and also listing all the civic boards, departments, and utilities concerned with the application which would have to sign their approval before the plan was finally approved by the Board.[13] Those concerned included the City Planning Department, the Engineering Department, the Electric Light Department, the Gas Company, the Public and Separate School Boards, the Technical Planning Board, the Provincial Planning Advisory Board, the Central Mortgage and Housing Corporation, the Board of Commissioners, and City Council.[14] The Technical Planning Board Minutes occasionally pointed out the need for all affected parties to be consulted as the following example indicates:

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[13] Minutes, Technical Planning Board, June 8, 1955.

> The layout submitted was preliminary only and after discussing some of the requirements the Board authorized circulation of the plan amongst the utilities, ...departments, ...and services concerned. The plan is to be circulated also amongst the Health, Parks, and Transit Departments, as well as the School Board, to determine what land requirements these various departments and services have in the area.[15]

LOCAL IMPROVEMENTS

Before 1953 practically all local improvements were capitalized and installed by the City, recovery being by means of local benefit assessments. Local improvement bylaws were required for such items as paved streets, sidewalks and curbs. The building boom placed severe strains on the City's ability to provide all the services demanded. A projection of the borrowing which would have been necessary to continue with this procedure showed that the City would assume debts beyond its financial capacity.[16]

Also contributing to the problem was the conversion from street car to trolley bus transit service. To provide better transit service, the city adopted a new policy of paving arterial roads and bus routes, with the residents living along the routes paying up to the cost of residential pavement and the city paying the remainder. Previously, the taxpayer had no direct cost as the paving was paid for partly by the city and partly by a transit surplus. The main argument of the opponents was that they, through taxes, paid for arterial roads which others got free but now they had to pay directly for arterial roads that passed their homes.[17] Primarily because of the high servicing costs involved, as well as situations where some home owners assumed heavier tax burdens that others, the City has, since 1953, followed a policy of insisting that all the services be part of the cost of a home. In practice this has meant that the improvements were installed by the developer at the time of development of his land in accordance with the terms and conditions of a development agreement entered into with the city. Authority for this arrangement was given in the Subdivision Regulations, Section 7, subsection 1 which states:

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[14] Martin, op. cit., p. 19.
[15] Minutes, Technical Planning Board, September 7, 1955.
[16] Martin, loc. cit.

> Subject to the approval of the Board, the municipal authority may require the owner of any land which it is proposed to subdivide to install or construct upon the land at his own

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[17] The Albertan, March 3, 1953.

> expense any of the following:
> (a) graded, gravelled or paved streets, and curbing,
> (b) graded, gravelled or paved service roads and lanes,
> (c) sidewalks,
> (d) culverts,
> (e) drainage ditches.[18]

In this way, all local improvements were automatically provided and paid for by all. A key reason for the creation of the neighbourhood unit concept was to protect property values and one step towards this objective is to ensure that all local improvements are provided.

PROGRAMMING OF DEVELOPMENT

As mentioned previously, premature subdivision can seriously restrict the overall design and development of an area. Control of the timing and sequence of development is therefore crucial and, in recognition of this need, the Subdivision Regulations included Section 5 which states:

> No land shall be subdivided unless it may reasonably be expected to be used within a reasonable period of time for the purpose for which it is proposed to be subdivided.[19]

The Planning Act, Section 25, also contains rules prohibiting the subdivision of land. Subsection 2, part(a) prohibits land from being subdivided unless:

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[18] Subdivision Regulations, Section 7, Subsection 1.
[19] Ibid., Section 5.

the manner of subdivision does not prejudice the possibility
- (A) of the future further subdivision of the land, and
- (B) of the future convenient subdivision of adjoining land.[20]

Recognizing the importance of orderly development and with the outline general plan as a guide, the Planning Department in liaison with private developers prepared a yearly development program based on the neighbourhood unit. Areas for development were selected on the following basis:

- (a) Distribution of areas over different parts of the City to accommodate as far as possible the preference of customers and requirements of developers and planning of these areas in accordance with an established neighbourhood pattern.
- (b) The availability of services and utilities,
- (c) The relationship to existing development and particularly neighbourhood development to minimize school, transit, and other community problems, and
- (d) The relationship to existing and projected arterial streets.[21]

Applications for development were occasionally refused because they did not conform to the development program and it may be helpful to look at an example to discover some of the factors taken into consideration when refusing an application. The following situation developed in 1955.

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[20] Province of Alberta, Town and Rural Planning Act, Chapter 337, Revised Statutes of Alberta, 1955, Section 25, Subsection 2.

[21] Martin, op. cit., p. 18.

> Looked at from the point of view of proximity to the developed part of the city, to the relationship to school facilities and transit service, this area presents some problems. In addition to this, the program for opening up industrial land in this part of the metropolitan area has not been clarified or completed, and until it is, the Board was of the opinion that no residential development should take place within it. The area could be serviced with utilities but it would require an additional branch sewer trunk from the Manchester trunk presently under construction. The area is not now within the city although it is in the program of annexation recommended to the Royal Commission on Metropolitan Development. Taking all these factors into account, the Board decided against the proposed development with a review of the application to be made in a year's time.[22]

INTERIM DEVELOPMENT AND ZONING

As indicated in Chapter 2, Interim Development Bylaw 4271 was passed in 1952. Under this bylaw, the 1934 Zoning Bylaw 2835 was suspended and all development came under the control of the Technical Planning Board. This step was taken to give the town planner enough power to ensure that any proposed developments were in conformity with the evolving general plan and, it will be recalled, one of the policies of the evolving general plan was the use of neighbourhood units. Part of the bylaw consisted of a zoning guide which, to a great extent, accepted and extended the principles established under the 1934 zoning bylaw.[23] For the most part, these principles were out-dated, and the continued use of them perpetuated problems already in existence. One example is the use of ribbon commercial development which results in conflicts with residential land uses, parking problems, and traffic congestion. Despite these limitations, interim development had the advantage of allowing each application for development to be considered on its own merits. In addition, under interim development, new zones were established by designation whereas under the zoning bylaw they were required to be established by amendment procedure, which takes longer. As new areas were planned and developed, the zoning guide was simply extended to cover the new zones established in the neighbourhood plans and, due to the severe housing shortage at the time, any method to speed up the approval process was welcomed.

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[22] Minutes, Technical Planning Board, December 16, 1955.

Although interim development does have advantages, its use also presents problems. Chan elaborates:

> Interim Development would seem to be a highly desirable technique: it is flexible yet restrictive; it is a breathing interval whereby the public can be gradually acquainted with the objectives and principles of the anticipated general plan; it allows the public to see how the general plan has been evolving and it also

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[23] City of Calgary, General Plan, 1963, p. 49.

> enables them to gain some knowledge about the estimation of the cost of future development.
>
> However, to prolong interim development is dangerous, since nothing is definitely fixed. There exists an element of uncertainty which only encourages the speculator but discourages the cautious developer[24]

Interim development was viewed as a temporary measure, to be in effect only until a master plan and new zoning bylaw were approved. At the time of passage, it was assumed that interim development would last only a few years but, because of the rapid growth rate, work on the general plan and zoning bylaw slowed. At the same time, pressure mounted in City Council for a new zoning bylaw, as evidenced by a request from Alderman Grant MacEwan in 1955.[25] Then, in 1958, the Interim Development Bylaw was quashed through a court action on the grounds that city council itself should have been the controlling body over zoning and that powers should not have been delegated to the Technical Planning Board. Zoning Bylaw 4916, which had been under preparation for several years, was rushed to completion and designated city council as the authority for zoning. This meant that any future changes had to be done by amendment.

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[24] Way May Winnie Chan, The Impact of the Technical Planning Board on the Morphology of Edmonton, unpublished M.A. thesis, University of Alberta, 1969, pp. 24-25.

[25] Letter from C.B. Cummer, City Clerk to A.G. Martin, August 4, 1955.

Although unduly rushed, expectations were high for the success of the bylaw. Basically, it was believed that the uncertainty associated with interim development would no longer exist. As an illustration, at the time of passage, one newspaper report read as follows: "It's all over now. Calgary has a zoning bylaw which puts all future development into its own particular zone and squabbles over 'spot zoned' service stations and apartments will be a thing of the past."[26] Despite this optimism, the bylaw did not eliminate uncertainty. The initial problem faced was the difficult task of including all possible land uses in the bylaw. For example, soon after passage, it was discovered that the bylaw made no special regulations for dwellings which were to be moved from one site to another, for trailer sales lots, apartment hotels, or parking structures.[27] As a result of these and other oversights, the most immediate effect was a large number of amendment applications and a correponding increase in the workload for the planning department.

Another problem was clarifying the objectives of the bylaw. The principal purpose of any zoning bylaw is the protection of established areas from unwanted uses. It was concluded that, since the land within a zone could be used only for the purposes which the provisions of the bylaw indicated, any other use was illegal. In the planning process though, a zoning bylaw has also been expected to guide or control the development of areas in transition and what is hoped may become established areas. The major difficulty here though, was that, because the city did not have a general plan to guide planning, planners were not sure just what kind of development should be allowed. As a result, amendments were usually agreed to without much dispute. With this approach, zoning did not guide development, it was the result of it.

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[26] The Albertan, June 20, 1958.
[27] Minutes, Technical Planning Board, August 20, 1958.

CONCLUSION

The planning period under consideration in this chapter is probably the most important for the purposes of this study. It was during this period that the basic principles of residential planning evolved and were defined. The major events directing this process have been pointed out. The rapid growth rate brought about annexations which, in turn, contributed towards the consolidation of land holdings. Development of these areas then occurred on a large scale contributing towards comprehensive planning, the basis of which was the neighbourhood unit concept. The use of the neighbourhood unit concept was encouraged by a well-defined subdivision procedure but, more importantly, the passage of planning legislation which supported neighbourhood unit principles.

CHAPTER V

NEIGHBOURHOOD UNITS 1954 - 1963

Although the neighbourhood unit concept was used extensively during the period under review, the principles were often not clearly stated. The Technical Planning Board Minutes, unfortunately, are too often too brief and do not adequately explain why some decisions were made. As a result, the period is a confusing one and can best be viewed as a time when planning ideas were tested and principles established. The objective here is to describe the principles as they evolved. The chapter begins with a discussicn of general neighbourhood planning principles focussing on the major problems which planners faced with the development of residential areas, and concludes with an analysis of one residential district developed during the period, the Fairview neighbourhood unit.

RESIDENTIAL PLANNING AREAS

The location and size of the city's housing developments appear to have been based on three major considerations: topographical restrictions, land ownership, and housing demand. As a result of the varied terrain of the city, utilities extensions were limited, and, because of this, growth during the period was directed mostly to the north and to the south. Land ownership patterns and a strong housing demand were the most important factors influencing the size of residential developments.

To illustrate the interrelationship between location and size, and terrain, land ownership, and housing demand, the North Hill Development Scheme submitted to the Technical Planning Board in 1953 has been taken as an example. Located in the northern section of the city, the area was planned to contain five neighbourhoods (Figure 8). The large size was based on the fact that most of the land was already owned by the city, through tax defaults. Terrain, too, had an important influence on the scheme since its limits were determined by "that area which could be tributary to the proposed trunk sewer."[1] Another effect of the terrain was that it tended to define the area. A ravine located to the south was used as a utility right-of-way and as a major parkway and, in addition to providing a park area for the neighbourhoods, served to delimit the southern boundary of the planning area.

Although the first neighbourhood units were planned and developed by the city, as the housing demand increased, private developers became more responsible for the development of residential areas. Since most developers were in the land development business over the long term, they began to assemble large blocks of land in anticipation of future development. They also became increasingly receptive to the idea of having their land laid out in accordance with neighbourhood unit principles.

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[1] Minutes, Technical Planning Board, August 19, 1953.

Even though the use of larger, more complete planning units was increasing, agreement could not be reached with all land owners, and as a result, some areas which should have been included within a plan were not. Frequently, the Technical Planning Board minutes empahsized the need to plan new areas without delay even if it meant omitting areas which should be included. As a case in point, it was decided that a small portion of a particular subdivision plan had to be excluded in the initial stages because "...the Board considered it essential that the land be ready for development at the earliest possible moment and, therefore directed that the procedure be pushed forward with all possible speed."[2] These omissions often led to later planning problems.

Despite these difficulties, residential planning in

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[2] *Ibid*., December 31, 1957.

Calgary did improve. Many times the Technical Planning Board referred a subdivision plan back for further study to determine its relationship with the future planning of the area.[3]

STREET PATTERN

As pointed out in the 1970 *Calgary Plan*, transportation, perhaps more than any other factor, shapes the form of Calgary.[4] Transportation problems were instrumental in initiating work on the master plan in 1949. At that time, a large increase in the number of vehicles overloaded the old street system which led to complaints about traffic congestion.[5] The need for more effective transportation planning was evident.

Major Thoroughfares

The first important change in the city's transportation planning policy was in 1953 with the approval of the first Major Thoroughfare Plan. The plan was a substantial departure from the old street design in that the old pattern using a standard 66 foot right-of-way only for all streets was abandoned in favor of a classification system of roads based on function. The 1954 revised plan designated four catagories of streets:

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[3] *Ibid*., March 5, 1961.

[4] City of Calgary, *The Calgary Plan*, 1970, p. 1.1.

[5] Minutes, Technical Planning Board, September 1, 1954.

1. Arterial Thoroughfares - the Provincial Highways and the main connections between them through the city (a) present (b) proposed. The minimum width of these in undeveloped areas - 132' with additional provision for access streets on both sides. In developed areas the width to be established by what setbacks are practicable.

2. Major Thoroughfares - the main streets serving as connections between one part of a city and another. The width of these to be 100' in undeveloped areas. In developed areas the width to be established by whatever setback is practicable.

3. Secondary Thoroughfares - the main streets connecting with Major Thoroughfares and serving as collecting streets for residential neighbourhoods and industrial areas. The width of these to be 80' in undeveloped areas. In developed areas the standard 66 foot width.

4. Parkways - streets established through scenic parts of the city. May be developed as anyone of the above catagories depending on location.[6]

The classification was somewhat unclear since some streets could be included in any catagory. Furthermore, in this classification, it is apparent that neighbourhood unit principles were not stressed. No mention is made, for example, of streets functioning as neighbourhood boundaries or of restricting the number of access points so as to reduce through traffic in residential areas. Nevertheless, a basic principle of the neighbourhood unit concept was used, an hierarchy of streets.

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[6] Ibid., February 15, 1954.

Subdivision Regulations

In the subdivision regulations, as in the neighbourhood unit concept, streets had to be designed according to function. Section 15, Rule 1, part(a) reads:

> Land shall only be subdivided and subdivisions shall only be designed in accordance with the following rules:
>
> Street Widths
>
> (a) The width of a street, classified on the basis cf prospective traffic requirements and for design shall be no less than the width specified in the following table as being the minimum width of that class of street:

	Class of Street	Minimum Width of Street
(i)	arterial road	132 feet
(ii)	major thoroughfares	100 feet
(iii)	shopping street	80 feet
(iv)	minor street	66 feet
(v)	service road	66 feet
(vi)	cul-de-sac	66 feet with 50 foot turning radius
(vii)	loop service road	50 feet
(viii)	half street	33 feet.[7]

The most interesting fact about the above list of widths is that, apart from the service road and the half street, the minimum width for residential streets remained at 66 feet. Since major thoroughfares were needed as well as residential streets, a greater proportion of the area of a subdivision was required for roads than previously. The Technical Planning Board, though, could request the Provincial Planning Advisory Board to waive these requirements if adequate reasons were given.

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[7] Province of Alberta, Subdivision Regulations, Section 15, O.C. 969 - 53.

In 1955, to facilitate the installation of utilities in the back lanes of new subdivisions, the Engineer's Department suggested that the width of lanes be increased from 20 to 30 feet and the streets be reduced to 56 feet.[8] The Board endorsed the change. This standard was used to guide street planning until 1962 when new standards were approved by the Board. In this classification, the standard residential road right-of-way had been reduced to 50 feet and various residential collectors ranged from 54 to 80 feet.[9] Minor changes were again made in 1965 and by 1967, to correspond to the standards preferred by the city, the standard residential road width in the Subdivision Regulations had been changed to 50 feet.[10]

The gradual reduction in the width of residential streets indicates that the earlier 66 foot standard was too large. In the later subdivisions, therefore, where narrower roads were used, more effective use was made of the land.

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[8] Minutes, Technical Planning Board, October 12, 1955.

[9] *Ibid*., June 6, 1962.

[10] *Ibid*., July 21, 1965 and *Subdivision and Transfer Regulations*, Section 24(1), O.C. 1019 - 67.

Street Design

A basic objective of the neighbourhood unit concept is the elimination of through traffic within neighbourhoods, to make them safer and quieter. This goal is achieved first, by the provision of arterials to carry traffic around the neighbourhood units and second, by the use of curvelinear street design within them. Unfortunately, though, unless it is treated with great care, a curvelinear layout can create a great deal of confusion. The Technical Planning Board was sensitive to this danger and often required revisions to the street design.[11]

One part of the residential street system in Calgary which departs substantially from the neighbourhood unit concept is the location of several collector streets, namely Northmount Drive in the north, and Fairmount and Elbow Drives in the southern section. Each of these routes forms a continuous system passing through many neighbourhoods, and thus, to a large extent negates one of the basic principles of residential planning, the elimination of through traffic from residential areas. These collectors, functioning as arterial roadways, split the neighbourhoods rather than bound them, and undermine the physical unity that neighbourhood units are normally expected to have. The routes have also encouraged the development of commercial pockets which cause traffic congestion and reduce safety, particularly for children whose schools are often located along the same collector streets.

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[11] For example, see Minutes, Technical Planning Board, August 8, 1956.

The planning period also witnessed the introduction of several variations in street design. The first main design variation was in the Belaire subdivision in the southwestern section of the city. The subdivision, planned as a high amenity residential area, was the first to use a laneless design. In support of this innovation, the developer argued that regular lanes are dirty and muddy, costly to maintain, and cluttered with a haphazard array of fences, walls, and poles.[12] To ensure high quality, he was prepared to set up the necessary legal protection to guarantee that all owners in the area would have, as a part of their home, garbage disposal units, incinerators, and portable carts to assist in garbage collection.

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[12] Letter from M. T. Ribtack to the Technical Planning Board, January 6, 1959.

By careful street design, plus the use of building controls, several important objectives of the neighbourhood unit concept can be obtained. An internal street design first of all provides greater safety and quietness, but of equal importance, it can also help to create a sense of neighbourhood identity. The thoroughfares define the neighbourhood by functioning as boundaries while the local streets, since they are designed as systems, are efficient for the residents.

STREET AND SUBDIVISION NAMING POLICY

The most frequent complaints about residential areas where neighbourhood unit street design principles have been used are the difficulty of locating an address and the risk of becoming lost. Usually, the blame for this confusion is laid on the street design. With some neighbourhood designs, this criticism is justified. More often though, it is the street naming system which is at fault. A logical city-wide street naming policy based on the neighbourhood unit concept has been established in Calgary and, to understand how it works, a description of its evolution is called for.

When the city was developing on the gridiron pattern, a numbering system was applied to all streets, but this had to be abandoned as the curvelinear layout came into vogue.

Initially, no clear policy was followed in choosing the names for the neighbourhood streets. Knob Hill, for example, has several named streets, each having been chosen for a different reason. One part of the subdivision had a cresent and Mr. Lamb, the Town Planning Engineer, when designating the streets, reported that he had been able to number other streets in the district but had to have a name for this one.[13] The Town Planning Commission subsequently recommended to city council the name Osborne Crescent, "in honor of the late F. E. Osborne, mayor of the city from 1927 to 1929."[14] Elsewhere in Knob Hill, Tecumseh Road was named for the near by Tecumseh Naval Training Station.[15] With another neighbourhood unit, Britannia, the reasoning was much different. Since Britannia was established in coronation year, the streets received names like Imperial Way.[16] In the Briar Hill neighbourhood, on the other hand, names of trees such as Juniper, Sumac, and Hawthorn were chosen.

Due to the variety of names, all chosen without reference to a city-wide street-naming policy, confusion and complaints were widespread. Dissatisfaction persisted for some time as evidenced by a city council motion in 1959 asking that the Technical Planning Board, in its role as approving authority for subdivisions, "...take the necessary steps to ensure that all new subdivisions are laid out with coherent street systems which will not lead to confusion in house numbering or in finding an address."[17]

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[13] Minutes, Town Planning Commission, October 13, 1949.
[14] Ibid., October 14, 1949.
[15] Ibid., August 23, 1951.
[16] The Albertan, November 14, 1953.

In fact, some steps had been taken before this. In 1955, the Board decided that each street name in a subdivision would begin with the same letter as the subdivision name.[18] This approach was not new. When Mr. Lamb submitted a list of street names for the Renfrew neighbourhood unit in 1948, he said that "alliteration has been resorted to" so that streets could be found easily.[19] Confusion still arose, though; Highwood and Haysboro are six miles apart, and the street names both begin with "H". To solve the problem, the Board, in 1958 recommended a zoning system based on quadrants.[20] No duplication of subdivision initials would be allowed within a quadrant and any address would have a quadrant designation. For example, since Haysboro was located in the southwestern quadrant, the designation "S.W." would be added to all Haysboro addresses.

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[17] Letter from City Clerk to Technical Planning Board, January 6, 1959.
[18] Minutes, Technical Planning Board, May 18, 1955.
[19] Letter from J. A. Lamb to J. M. Miller, City Clerk, December 9, 1948.
[20] Minutes, Technical Planning Board, March 5, 1958.

The choice of a neighbourhood name was usually made by the developer, mostly because he preferred a distinct name for his development. This approach worked well where only one developer was responsible for an entire neighbourhood unit, but not when the development was shared. In one case, a developer suggested Foothills Estate as the name for his section of the Collingwood neighbourhood unit. The Technical Planning Board objected, reasoning that the street names could not possibly relate to the Collingwood area.[21] After negotiation, as a compromise, the Board agreed that the subdivision could be named Foothills Estate on condition that all its streets be named with the initial "C".[22]

From this description, it is evident that the street and subdivision naming system in Calgary does have some logic. The neighbourhoods, particularly those developed since 1955, do relate to a city wide system. More neighbourhoods have distinctive names and corresponding street names. In this way, each neighbourhood and its location can be identified.

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[21] Ibid., February 1, 1961.
[22] Ibid., March 29, 1961.

COMMUNITY RESERVES

Through the years, areas were set aside in various parts of the city for parks, playgrounds, schools, and other community facilities. The outcome was a park hierarchy ranging from large city parks serving the entire population to small open spaces catering to a few blocks within a neighbourhood unit. Attractive natural features were the most important criteria in the selection of the large city parks. These are particularly associated with the steep slopes and buffs of the river valleys, prominent viewpoints such as Nose Hill, and the open space surrounding the Glenmore Resevoir. All of this land can be catagorized as city parkland having no exclusive association with any particular neighbourhood but attracting and serving citizens from all parts of the Calgary area.[23]

Of most interest to this study are the smaller parks, playgrounds, and school areas which were planned as part of the residential areas developed during the planning period under review. The objective here is to discuss the criteria used and the problems faced in deciding on the location, size, and uses of the community reserve areas.

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[23] City of Calgary, General Plan, 1963, p. 71.

Subdivision and Transfer Regualtions

As with other land uses, one of the most important influences affecting community reserves was the Subdivision and Transfer Regulations. Under the regulations, when a parcel of land to be subdivided exceeded two acres, reserves had to be provided in the amount of not less than 10 per cent of the whole area to be registered under a plan of subdivision.[24] Reserve as defined by the regulations means: "a parcel of land reserved for use as a park, school site, or other community or public purpose."[25]

In earlier times, land set aside for parks was often located in areas that were unsuitable for any sort of development. With the implementation of the Subdivision Regulations in 1953, though, the location of a reserve had to be to the satisfaction of the Director of Surveys. This requirement was later amended to be even more restrictive. Section 20, subsection 2 of the 1960 regulations states:

> The land contained in each reserve shall be suitable for the use for which it is intended and shall, as to the average conditions of its topography and the native of its soil, be of the same general character and quality as the remainder of the land in the subdivision.[26]

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[24] Subdivision and Tranfer Regulations, 1960, Section 23(1).

[25] Ibid., Section 2:

[26] Ibid., Section 2(2).

The Technical Planning Board often received applications where unsuitable land was offered as part of the 10 per cent reserve. One tentative plan, for example, included a portion of the Elbow River as well as a sheer cliff rising from the river.[27] With the authority given it by the regulations, the Board was willing to accept unsuitable land but only at a ratio or in addition to good quality land. In one subdivision, for instance, the Board agreed to accept hillside sites at a ratio of 2:1, meaning that 2 acres of hillside would be accepted as one acre of the 10 per cent community reserve requirement.[28]

Joint Use Sites

School requirements have always had priority in the use of the community reserve and it is evident that neighbourhood unit principles were closely followed when school sites were chosen during this planning period. Plans were occasionally refused, for example, because it was observed that an elementary school was "...not centrally enough located."[29] Even though the 10 per cent compulsory reserve requirement was a great aid in providing for parks and schools, it was quickly realized that more than 10 per cent was needed for all of the necessary community facilities. When both the Separate and Public School Boards required sites in a neighbourhood unit, the 10 per cent reserve was not sufficient, particularly if additional park and playground space had also to be provided. In 1956, this provoked the City Planning Department to ask the Provincial Planning Board in Edmonton whether there was any intention of increasing the public reserve provision of the Subdivision Regulations.[30] The answer was no. To overcome the problem, therefore, several policies on the use of community reserve evolved, of which one was the notion of joint sites.

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[27] Minutes, Technical Planning Board, August 19, 1959.
[28] *Ibid*., January 20, 1960.
[29] *Ibid*., February 24, 1954.

The concept was formally adopted in 1960 with the Joint Sites Agreement between the City and the Calgary School Board.[31] Under the terms of the agreement, the City and the School Board agreed to use the same areas for their respective activities. The design of a joint use site was carried out by the Planning Department in consultation with a committee composed of city and school board representatives. The major feature of a joint use site was that it be used for school recreation purposes on school days up to 6:00 p.m. and at all other times by the neighbourhood residents.[32]

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[30] Ibid., May 21, 1956.
[31] City of Calgary, Joint Sites Agreement, May 18, 1960.

It is interesting to note the close resemblance between the joint site concept and the community school idea as outlined by Perry. Perry suggested the use of the school building itself as a community social centre and, although this does not occur with Calgary's schools, the joint sites do include schools, parks and recreation areas. Furthermore, community centres are usually located on the site, although they are excluded from the joint sites agreement.

Reserve Deferrals

A basic planning policy followed during the planning period was to locate elementary schools centrally in the neighbourhood units. This objective was difficult to achieve in areas with a multiplicity of ownerships. However, if developers agreed to consolidate their reserves, larger areas in more central locations were possible. The Technical Planning Board suggested consolidation if the subdivision originally proposed was too small to provide a reserve area large enough to be used efficiently.[33] As the city expanded, though, fewer ownerships and larger acreages made it easier to set aside reserve areas of an adequate size.

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[32] Ibid.

[33] Minutes, Technical Planning Board, October 31, 1962.

On the other hand, the use of larger planning areas created its own problems. Developers frequently owned large areas which they eventually intended to develop as a unit, but in small pieces at a time, the amount each year depending on housing demand. Neither the Planning Act nor the Subdivision and Transfer Regulations provided a legal means for deferring the taking of reserve by the City from one particular plan of subdivision when the intention was to take reserve from a subsequent plan of subdivision within the same approved outline plan. The Planning Act required the 10 per cent reserve to be dedicated with each registered plan of subdivision and, in the earlier years of this planning period, this requirement caused the division of the community reserve into smaller and less efficient parcels. The Board approached the problem of providing large central community reserve areas by placing covenants on the land to be subdivided. An example best illustrates the procedure:

> The Board agreed to approve the plan as submitted on condition that lots amounting in area to 10 per cent of the entire area contained within the subdivision should be transferred in title to the City of Calgary and to be held until such time as the main subdivision is completed, at which time these lots would be exchanged for land to be used for Community Reserve purposes within the general area. Covenants would be placed against these lots to ensure that the use to which the City would employ these lands would be solely for the

acquisition of future Community Reserve.[34] Eventually, in 1964, reserve deferrals were formally granted by the Provincial Planning Board.

COMMERCIAL DEVELOPMENT

Of all the land uses associated with residential areas, commercial uses probably changed the most as new residential areas developed. Before there was extensive use of the neighbourhood unit concept, the locations, sizes, and functions of commercial land were based on outdated and poorly defined policies. Tramway terminals, for example, occasionally determined the locations of local commercial facilities. At other times, it appears as though developers were tempted to develop a site aleady owned whether or not that site was best suited to serving the area or whether any commercial space was needed at all. An inefficient land use pattern was usually the result with land use conflicts, excessive commercial zoning, and traffic congestion.

These problems were closely associated with the well established policy of zoning the corners of important intersections for commercial purposes. To serve as a guide, when reviewing an application for commercial development at an intersection, the Board required that it be at least a half mile away from the nearest commercial centre.[35] Taking one of many examples, in 1955, an intersection was zoned for commercial development even though the adjacent residential area was not yet planned.[36] Similarly, in a plan submitted much later, in 1961, a commercial ribbon was proposed along Northmount Drive, an important collector street. The Board rejected ribbon development but was willing to recommend as an alternative, four corners of a major intersection on the collector as a local commercial.[37]

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[34] Ibid., June 14, 1961.

The major difficulty with this policy was that streets had two conflicting objectives. They needed to provide easy access to commercial facilities, yet at the same time were required to move traffic. Even more basic to the problem was deciding whether a business was to serve a strictly local area or to cater to a much larger drawing area. The minutes illustrate the confusion:

> As a matter of general policy the Board decided that wherever possible, subdivision plans should be designed having respect to proposed residential and commercial zoning and that the location and size of commercial areas should be so as to meet not only the requirements of the neighbourhood itself but also on appropriate major thoroughfares to meet the general requirements of traffic generated by such

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[35] Ibid., October 16, 1957.
[36] Ibid., April 22, 1955.
[37] Ibid., March 15, 1961.

thoroughfares.[38]

With so many factors unknown, such as thoroughfare traffic volume, neighbourhood population size, and varying accessibility conditions, deciding on the size and functions of local commercial areas was a difficult if not impossible task.

Service Stations

Service stations created the most problems, primarily because they required easy accessibility but, by being more accessible, caused congestion on through streets. Many service stations were approved precisely because they were located on major thoroughfares.[39] Planners eventually began to realize that the primary objective of a major thoroughfare was not to provide access but to move traffic. After city council approved in principle the proposed thoroughfare network for the city in June, 1959, the Technical Planning Board began to be more concerned with the question of allowing access points for service stations on major arterials. To protect the status of the thoroughfares as traffic movers, the Board refused direct access and referred the applicants to Section 95(a) of the Town and

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[38] *Ibid*., September 22, 1955.

[39] For example, see Minutes, Technical Planning Board, June 22, 1955, May 4, 1955.

Rural Planning Act. The purpose of this section of the act was to provide the means whereby the City could designate the access points in question as temporary and impose the restriction by way of a covenant which could be deemed to run with the land.[40] Since access could only be temporary, the restriction became an important planning tool. In one case, for example, it was contended by the applicants that the accesses proposed were essential for financial success, and that without proper access the property was of little value.[41] Since the location was on a major thoroughfare the accesses were refused; the commercial development never took place and field inspection revealed that a nursing home had been built instead, a land use not requiring easy accessibility or causing congestion.

Controversies also arose with service station approvals not on major thoroughfares. Residents living close to local commercial zones within their neighbourhood units either did not know the parcels were zoned for commercial uses or believed that service stations were not an allowed use. The minutes best illustrate their argument:

> It was the understanding of these people when they bought their residential properties that although the property was zoned for commercial purposes, it was intended for small stores. They

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[40] Minutes, Technical Planning Board, June 1, 1960.
[41] *Ibid.*, June 26, 1963.

> were distinctly of the opinion that a service station would not be permitted on this property.[42]

In this case, the Technical Planning Board, following established interim development policy which permitted service stations in local commercial zones, approved the application. Protests arising from this case and others at about the same time were so strong that city council adopted a motion requiring all applications for service stations in local commerical areas not situated on major thoroughfares to be first approved by council.[43] This controversy pointed out the need to prevent the intrusion of undesirable commercial functions into residential areas but, even more importantly, to inform prospective residents of all proposed land uses in the neighbourhood. Subsequently, to avoid similar protests, the Board began requiring subdivision plans to show commercially zoned properties before residential sites were offered for sale to the public.[44]

Problems with service stations were further reduced by encouraging them to be planned as part of neighbourhood and regional shopping centres.[45]

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[42] *Ibid.*, June 15, 1955.
[43] Letter from C. B. Cummer, City Clerk to A. G. Martin, August 2, 1955.
[44] Minutes, Technical Planning Board, September 27, 1955.
[45] *Ibid.*, February 14, 1962.

Subdivision Procedure

The service station controversy points out the necessity of having a consistent and well-known planning approval procedure. If the residents had known that service stations were allowable uses in local commercial zones before they bought their properties, the dispute would not have occurred. Calgary's Interim Development Order and Interim Development Bylaw, it will be recalled, were passed in 1951 and 1952 respectively. Then, in 1952 the provincial government issued The City of Calgary Interim Development (Amendment) Order.[46] This order required every applicant for a development permit to display a notice on the site on which the proposed development was to take place "...for a continuous period of not less than 10 days immediately preceeding the date on which his application is submitted to the Board...."[47] The purpose of the order was to give anyone who might be affected by the development an opportunity to object. Appeals could then be directed to the Technical Planning Board.

The Amendment Order was an important step, since it recognized the need to inform the public of proposed developments, but it was not concerned with the initial zoning choice. Conscious of the criticism received, the Board, in addition to the posting as required by the amendment order, in 1958 also began to require developers to erect zoning signs in their subdivisions before any lots were sold, to inform would-be buyers of the details of the intended development.[48] The Board even refused development permits if signs were not present. Ruling on one application, the Board stated:

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[46] Province of Alberta, City of Calgary Interim Development (Amendment) Order, issued by C. E. Gerhart, Minister of Municipal Affairs, June 25, 1952.
[47] Ibid, Section 4, Subsection (1).

> The purpose of the subdivision sign was to inform any person buying property in the subdivision, of the exact zoning boundaries, location of special uses, and the type of thoroughfares proposed etc. Because of the City's previous experience regarding the development of neighbourhood subdivisions without the necessary safeguard of subdivision zoning signs, the City Engineer had witheld the issuance of building permits and had requested that the developers make immediate application to the Commission for approval of a subdivision zoning sign.[49]

Planning and the Free Enterprise System (Figure 13)

Under the North American free enterprise system, individual initiative is viewed as desirable and beneficial, not only to the individual but to the public as well. By contrast, planning is more concerned with the public good

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[48] Minutes, Technical Planning Board, November 19, 1958.

[49] Minutes, Calgary Planning Commission, October 28, 1964.

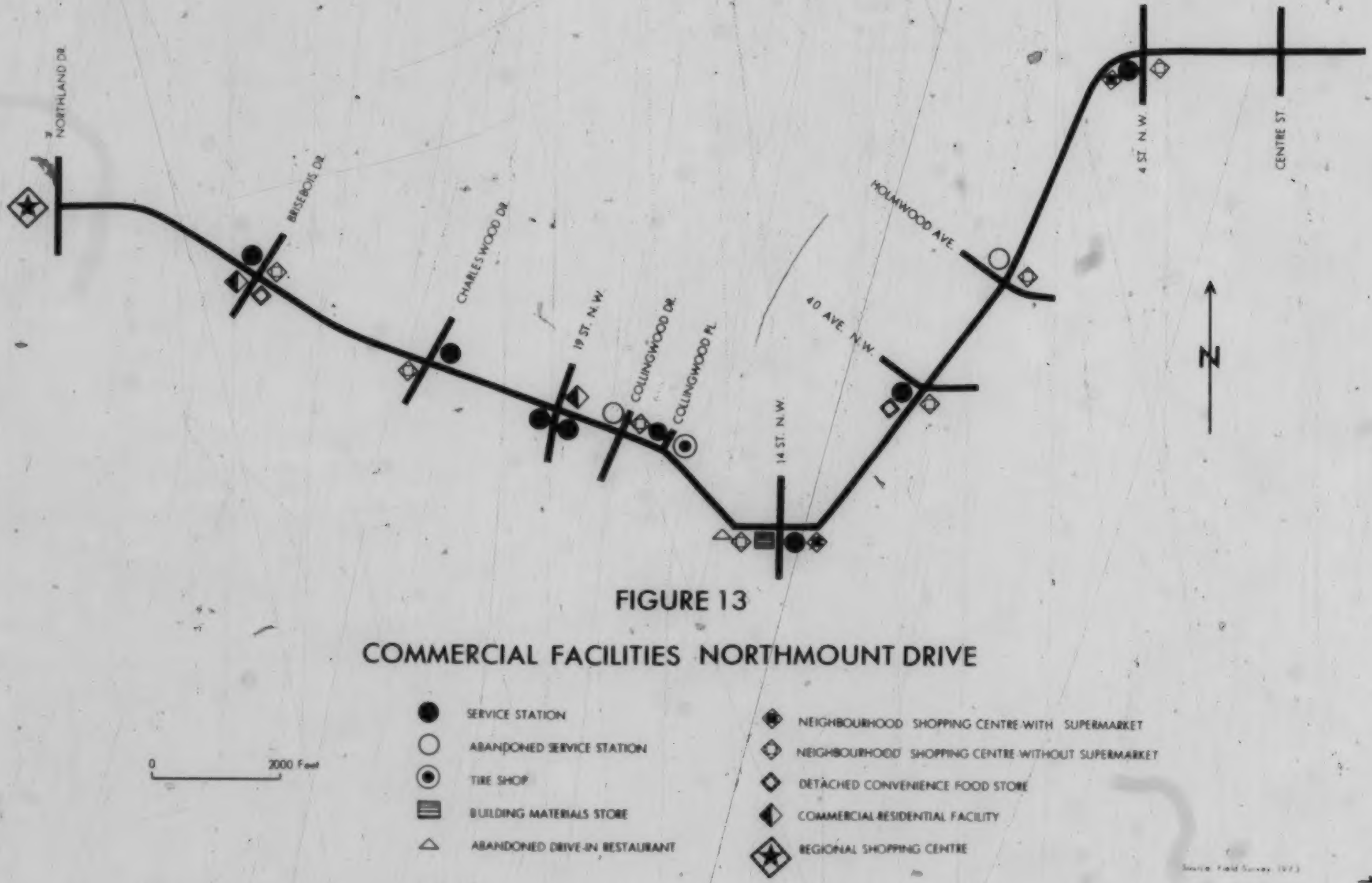
NORTHLAND DR.
BRISEBOIS DR.
CHARLESWOOD DR.
19 ST. N.W.
COLLINGWOOD DR.
COLLINGWOOD PL.
14 ST. N.W.
40 AVE. N.W.
HOLMWOOD AVE.
4 ST. N.W.
CENTRE ST.
N
0
2000 Feet
● SERVICE STATION
○ ABANDONED SERVICE STATION
◉ TIRE SHOP
▤ BUILDING MATERIALS STORE
△ ABANDONED DRIVE-IN RESTAURANT
◈ NEIGHBOURHOOD SHOPPING CENTRE WITH SUPERMARKET
◇ NEIGHBOURHOOD SHOPPING CENTRE WITHOUT SUPERMARKET
◇ DETACHED CONVENIENCE FOOD STORE
◆ COMMERCIAL-RESIDENTIAL FACILITY
◈ REGIONAL SHOPPING CENTRE

FIGURE 13

COMMERCIAL FACILITIES NORTHMOUNT DRIVE

Source: Field Survey, 1973

and, if required to, can restrict the freedom of the individual in favor of a larger community. The Technical Planning Board, though, took a very cautious, non-interfering approach towards the free enterprise system. To illustrate the attitude and its effects, the development of an important residential collector, Northmount Drive has been taken as an example.

When the area was first planned, a large number of local commercial zones were provided along the collector, primarily at major intersections (Plates 3 and 4). In 1960 an examination of the land use map in the immediate area revealed that an excessive number of service stations were either in existence or proposed to be built. When originally deciding on the zoning, it had not been the Board's intention to develop the area predominantly with service stations but to provide the local area with a full range of convenience service outlets. Service stations, though, were permitted uses in local commercial zones and were inevitably attracted to the well-travelled collector route of Northmount Drive. By 1960, the Board was beginning to show concern in its minutes:

> It was reasonable to assume that service stations were dependant on defined traffic flows and, consequently, competition amongst the service station companies was most pronounced where sites, adjacent to much travelled routes, were available for development. The competitive spirit was not the concern of the Board but at

Plate 3

Commercial-Residential Facility, Intersection of Northmount Drive and Brisebois Drive

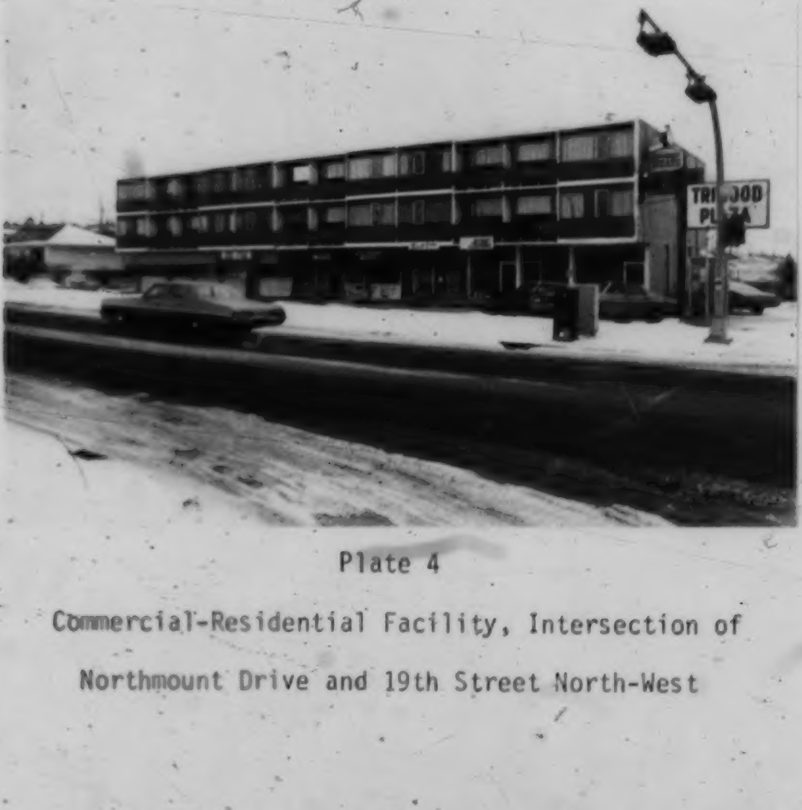

Plate 4

Commercial-Residential Facility, Intersection of Northmount Drive and 19th Street North-West

> the same time, the designation of a local commercial area should not provide an area to be developed almost exclusively for service station use.[50]

Previously, though, the City Planner had clearly pointed out the Board's position:

> Neither the Technical Planning Board nor the Zoning Appeal Board has ever felt it to be its function to regulate the number of service stations to be established in a locality.[51]

Although it was realized, that too many service stations would exist on Northmount Drive, all applications were approved because the Board did not want to interfere with the free enterprise system by being discriminatory against any particular applicant.[52] Field inspection in the summer of 1973 revealed that two of these service stations had been abandoned. A further indication of over-commercialization was a vacant A and W Drive-In restaraunt (Plates 5 and 6). This evidence indicates that the Board needed to be more concerned about the competitive spirit since inefficient use of land occurred when planning controls were weak. Perhaps these sites could have been more usefully utilized with housing or parks.

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[50] Minutes, Technical Planning Board, June 29, 1960.

[51] Letter from A.G. Martin to City Clerk, June 4, 1959.

[52] Minutes, Technical Planning Board, July 13, 1960.

Plate 5

Abandoned Service Station, Northmount Drive

Plate 6

Abandoned Drive-In Restaurant, Northmount Drive

Neighbourhood Shopping Centres

By definition, "a shopping centre is a group of commercial establishments planned, developed, owned, and managed as a unit with off-street parking provided on the property. The location, size, and type of shop is related to the trade area that the unit serves which is generally an outlying suburban area."[53] The neighbourhood shopping centre serves 7,500 to 20,000 people within six minutes driving time and caters to walk-in trade.[54]

In Calgary, neighbourhood shopping centres can be divided into two groups, those which have a supermarket as the principal tenant and those which do not. Both groups of centres are specifically designed to provide convenience goods and personal services for day-to-day living needs. The size chosen for the centres, though, does not appear to have been based on any clearly defined principles. Rather than judging the size of a proposed centre on the basis of its probable drawing area, the Board appears to have been more concerned as to whether there was any firm commitment to develop the property. The developer, realizing that commercial land sold for more than residential, usually set aside large areas for shopping centre development and the result, in many cases, was that the areas set aside were far too large. Rezonings for parts of the sites, usually to high density residential, were common occurrences in later years. The following application is an example of the problem.

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[53] R.J. Ross McKeever, Shopping Centers, Principles and Policies, (Urban Land Institute Technical Bulletin No. 20, Washington, D.C. July, 1958) p. 6 as quoted in Calgary Planning Department Report, Shopping Centres In Calgary, January, 1968, p. 1.

[54] R.J. Ross McKeever Shopping Centres Restudied Part One - Emerging Patterns. (Urban Land Institute Technical Bulletin No. 30. Washington, D.C. February, 1957) p. 9 as quoted in Calgary Planning Department Report, A Method for Estimating Requirements for Neighbourhood Shopping Centres in New Areas, 1969, p. 1.

> It had been the applicant's intention to develop the entire site with commercial buildings. The supermarket and some of the ancillary stores had been constructed but, partly due to the comparatively small drawing area of this shopping centre, and partly because of the competition from the Glamorgan Shopping Centre further to the north, it was clear that no further commercial developments were necessary in the area. It was therefore proposed to construct apartments in this portion.[55]

A 1968 Planning Department study of shopping centres in Calgary revealed that neighbourhood shopping centres which included a supermarket were usually located on sites of approximately three acres. The average gross leasable floor area of the centres was 27,000 square feet with the supermarket representing 49 per cent of the total and, on average, there were twelve stores per shopping centre.[56] The smaller centres without supermarkets were located on sites averaging 0.5 acres and containing an average of seven outlets.[57] A field survey in 1973 indicated that all centres with supermarkets and most of the smaller centres were locatd on major thoroughfares, usually at the entrances to neighbourhood units, while some of the smaller centres were located on collector streets within the neighbourhoods. The distance between the centres varied considerably, though the Technical Planning Board was usually more willing to approve applications for projects which were at least one-half mile from the next nearest centre.[58]

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[55] Minutes, Technical Planning Board, September 19, 1962.

[56] Calgary Planning Department Report, Shopping Centres In Calgary, 1968, p. 11.

Regional Shopping Centres

The planning period 1954-63 also witnessed the establishment of regional shopping centres in the city, the first application being made in 1952 in the north section of the city. Although no building ever occurred with this proposal, two main points were considered when the application was reviewed; its effect on the Central Business District and its influence on traffic conditions in the area.[59] After consideration, the Board approved the development noting that the trend for large decentralized Shopping Centres had been evident in North America for some time. Less congested traffic conditions and adequate off-street parking were the chief reasons mentioned for the trend.[60] During this planning period, the Board minutes provide few reasons why specific locations were chosen for regional centres. The first regional centre, the Simpsons-Sears North Hill Shopping Centre was completed in 1957. The site appears to have been chosen first, because it was located at the intersection of two major thoroughfares, 14th Street and 16th Avenue (Highway No.1), and second, because the location was central to a large and expanding residential area in the northern section of the city. The development of the centre had an important side effect which was repeated with other centres. It encouraged residential to commercial rezoning of land in the immediate area of the shopping centre and, even though the rezonings were usually opposed by local residents, the Board approved them feeling that "...decentralization is an established trend in Calgary and provision for it should be made in the evolving general plan."[61] On reflection, many of these rezonings were poor planning decisions since commercial-residential land use conflicts are evident.

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[57] *Ibid.*, p. 14.
[58] For example, see Minutes, Technical Planning Board, October 16, 1957.
[59] Minutes, Technical Planning Board, June 27, 1952.

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[60] Ibid.

[61] Minutes, Technical Planning Board, January 5, 1955.

Building Restrictions and Architectural Control

An increasing degree of control over the design and appearance of shopping centres is evident during the planning period. Architectural and building restrictions were imposed on the Britannia Shopping Centre, the first neighbourhood centre to be developed as a unit. Approved in 1953, the centre had an important influence since it served as a model for subsequent centres. For example, in 1957, the Board approved the development of a neighbourhood shopping centre, including a supermarket, in Cambrian Heights. The development had to comply with the following restrictions:

1. Two lots reserved for a service station site
2. No sideyards permitted.
3. Apart from the service station, the buildings required a continuous front.
4. Rear off-street loading space required.
5. One off-street parking space required for each 500 square feet of commercial area.
6. Street sides of all buildings required finished masonary fronts.
7. Maximum building height allowed was two stories or 25 feet[62] (Plate 7).

The Technical Planning Board gained further control over building design and appearance with the passing of the 1958 Zoning Bylaw (4916). Sections 38 to 40 required Board approval of building materials for sites abutting arterial and major thoroughfares. Section 39(1) stated:

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[62] Ibid., November 27, 1957.

Plate 7

Cambrian Shopping Centre

> Where a person
>
> (a) erects a building other than a one-family dwelling, a two-family dwelling or a motel building not higher than twenty-eight feet, or
>
> (b) adds to or otherwise alters an existing building so that its floor area is increased by more than thirty percent
>
> he shall cause those walls of such building which face on an arterial or major thoroughfare and those walls which face upon a street intersecting with an arterial or major thoroughfare and which are visible therefrom to be faced with brick, stone or other material approved by the Planning Board, including but not limited to glass, porcelain enamelled panels, architectural concrete, split concrete block, glazed concrete block, integrally colored concrete block, self-supporting metal panels and asbestos boards when used in combination with other approved material unless the construction or alteration is allowed by the Planning Board on a temporary basis only.[63]

Since most shopping centres and service stations were located on major thoroughfares, Board approval of exterior finishing materials was required for most commercial developments. The appearance of service stations was of particular concern to the Board, so, to reduce complaints, during the latter part of the planning period, the Board began to require the development of "residential type" service stations; these were service stations whose appearance would be compatible with the surrounding residential district. As an illustration, one "residential type" service station was described as follows:

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[63] Zoning Bylaw 4916, 1965. Section 39(1).

> The exterior finish of the building was to be screen block laid up against standard concrete block; the roof was pitched and of two different elevations (to bring it into residential scale) and was to be finished with a mineral surfaced coloured roofing. The site plans showed the provision of a 20 foot buffer strip abutting the 30 feet lane and the landscape details included the planting of grass and shrubs. In addition, a 4 foot high fence would be erected along the north property line.[64]

HOUSING

Residential development during the planning period was characterized by a strong preference for single family detached housing both in terms of public policy and consumer choice. At the same time, there was a growing demand throughout the planning period for apartment accommodation and other types of higher density residences. The provision of various kinds of houses and apartments in a neighbourhood unit is a widely accepted planning principle because, with a large variety of accommodation, a neighbourhood can have a mixture of age groups, family sizes, and incomes. The problem was to satisfy the market demand while avoiding conflicts which can occur between housing types.

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[64] Minutes, Technical Planning Board, February 6, 1963.

Housing Controls

Housing controls stemmed from three sources, the Subdivision and Transfer Regulations, the Interim Development and Zoning Bylaws, and restrictions imposed by mortgage companies particularly C.M.H.C.

As with other land uses, the Subdivision and Transfer Regulations had the most influence on housing. Among other requirements, they specified the layout, dimensions, areas, and permitted locations for residential lots. Single family house lots, for example, were required to average 50 feet in width and no less than 110 feet in depth and, in addition were required to have an area of not less than 5000 square feet.[65] In addition to the general subdivision requirements applicable to all subdivisions, as outlined in the previous chapter, the Subdivision and Transfer Regulations also restricted the development of residential areas if they were to be located in close proximity to railway lines, highways, airports, industrial areas and other objectional land uses.[66] The number and detail of the conditions imposed gives an indication of the extent to which the Regulations have influenced residential development, but, despite being strongly regulative, the regulations also performed a valuable function in providing the basis for design, and in 1969, for density standards for residential development.

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[65] Subdivision and Transfer Regulations (1960) Section 37 Subsection (1) (a).

[66] Ibid., Section 38, Subsection (1).

As pointed out previously, the 1934 *Zoning Bylaw 2835* was replaced by *Interim Development Bylaw 4271* in 1952. This remained in force until 1958 when it was replaced by *Zoning Bylaw 4916*. Although termed *Interim Development, Bylaw 4271* was in many ways used as a zoning bylaw. One of the principal purposes of a zoning bylaw has been to protect established areas from unwanted land uses; another has been to guide or control the development of new areas by establishing zoning districts each having permitted and conditional uses. Shortly after the *Interim Development Bylaw* was approved, residential zoning districts were established with the intention of making land available within each neighbourhood unit for all categories of residential development.[67] Various zoning districts, primarily in the single and two family categories were established, but because of the strong demand for single-family housing, most of the higher density zones were later rezoned. These characteristics of development were reflected throughout most neighbourhood units during the period of interim development.

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[67] Minutes, Technical Planning Board, April 28, 1953.

As an example of the effect of demand upon zoning, within two North Hill neighbourhood units, provision was originally made to reserve 40 per cent of the land for two-family residential development. More than 50 per cent of this land was eventually developed with single-family dwellings.** During interim development, planners attempted to use zoning as a tool to guide residential development. The extent of the rezonings, though, indicates the ineffectiveness of zoning if the market demand is not properly assessed.

In contrast to the period under interim development, after Zoning Bylaw #916 was approved, neighbourhood units were zoned in anticipation of the demand for single-family homes. The requirement of an amending bylaw to establish new zoning districts may have encouraged the original zoning to be in more realistic relation to the market demand.

The third factor which needs to be mentioned when evaluating Calgary's housing development is the role played by the lending institutions, the most influential being Central Mortgage and Housing Corporation. To obtain C.M.H.C. financing, developers and builders were required to comply with site planning standards as set by the Corporation. It

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** City of Calgary General Plan. 1963, p. 56.

is interesting to note that these are very similar to the requirements imposed by the _Subdivision and Transfer Regulations_ and the principles of the neighbourhood unit concept. They include rules on the location of land for housing, pedestrian and vehicular movements, house siting, landscaping, distance of housing from non-residential land uses, accessory buildings, parking, open space, and lot areas and dimensions.[69] C.M.H.C. opinion of most subdivision and development applications was sought as a matter of course by the Technical Planning Board, and often the plan had to be changed to comply with the conditions set by the corporation.

Apartments

The prevention of the depreciation of residential property values was a major reason for the inception of the neighbourhood unit concept. Although most depreciation is caused by the intrusion of commercial and industrial functions, depreciation can also occur if incompatible housing types are poorly located in relation to one another. Since the housing market during the planning period included a demand for apartment units in addition to single family housing, higher density areas needed to be provided within neighbourhood units. The problem was to locate them without conflict with single-family areas.

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[69] Central Mortgage and Housing Corporation, _Site Planning Handbook_, 1966.

Although not located within a neighbourhood unit, the planning of the city's first major high rise apartment project in 1952 marked the beginning of a strong trend toward apartment living. Mr. Martin, at the time, suggested two reasons why apartment accommodation was becoming more popular. First, such accommodation was neccessary for older people who were retiring and second, "...for younger people from outside the city cn temporary employment and whose length of stay did not warrant investment in a house."[70]

As residential development continued, criteria were established for apartment location within suburban residential areas. When evaluating high rise apartment proposals, the first point considered was the relationship of the site to the central part of the city. An early and still basic planning policy of the city has been the encouragement of a strong central business district and, to promote the redevelopment cf slum and blighted areas, high-rise residential development was encouraged in areas near the CBD while lower densities were assigned to new residential areas. In the 1963 General Plan the policy was simply stated:

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[70] Letter from A.G. Martin to J.M. Miller City Clerk, September 19, 1952.

> Extension of new residential subdivision progressively further from the City's centre will enhance the prospects of near downtown redevelopment for high density residential uses.[71]

Following established policy then, subdivision plans for new areas which included high-rise districts were usually rejected with arguments like this: "The Board did not consider that the additional density ...was justifiable at such a distance from the City centre ....[72]

The planning period also witnessed the development of the first apartment groups in neighbourhood unit locations. Zoning Bylaw 4916 defined a dwelling group as:

> A group of two or more detached or semi-detached one-family or two-family dwelling, or apartment houses occupying the same site and commonly owned and having a yard or court in common.[73]

Board preference for apartment group developments was evident. With one application, for example, the Board informed the applicant "...that a group development with the inclusion of some high rise apartment buildings would be more acceptable to the Board than apartment buildings of uniform height."[74] Variation in height provided a more appealing appearance for the residential area but in addition, group developments were designed to be somewhat isolated so conflicts with lower density housing were not as likely to occur.

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[71] City of Calgary, General Plan, 1963, p. 55.
[72] Minutes, Technical Plannings Board, August 17, 1960.
[73] Zoning Bylaw 4916, Section 2, 1965.
[74] Minutes, Technical Planning Board, February 7, 1962.

Even though most high rise development was restricted to the downtown area, the building of high rises in suburban locations was not prohibited. One interesting change during the planning period was a 1963 zoning amendment permitting the construction of apartments up to a height of 150 feet in two walkup apartment zones: in one, R-3, the usual maximum allowable height was 28 feet; in the other, R-4, it was 40 feet.[75] Apartments built in the new zoning category had the same number of units and parking spaces as the walkups but additional lot area was available for landscaping. Developments of this sort certainly led to more attractive use of sites, and avoided the uniformity of close-packed lower buildings, but there was a greater danger that they would be out of scale with the surrounding areas occupied by bungalows. In viewing the applications discussed in the Board minutes, it appears as though each was judged on its own merits, with primary consideration for the preferences of developers and the attitudes of adjacent residents, particularly if they already lived in the area.

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[75] Zoning Bylaw 4916, Table "S" - Permissible Heights of Buildings, 1965.

Another criterion was the proximity of the proposed apartment buildings to shopping centres. As early as 1953 the Board as a general policy ruled that "...apartments be established near shopping centres and in areas where apartments were already located."[76] It is evident that this policy has been used extensively since many commercial centres throughout the city have apartments located nearby.[77]

The location of apartments was also based on whether or not they could serve as buffers or transitional zones particularly between arterial thoroughfares and lower density housing. To take one example, in reviewing the plan of one neighbourhood unit the minutes comment:

> ... there was some possibility that the properties immediately to the east would be developed with the Highway Commercial type of establishment and if this were done, the property in question might form a useful transitional zone between the commercial properties and the comparatively high-class residential developments further to the west.[78]

Sites where the form of development could not be agreed upon initially, and which had been, by-passed in the development sequence, were also prime locations for apartment development. One of the best examples is in the southeastern subdivision of Acadia. Although most of the neighbourhood unit was planned in 1960, approximately 145 acres to the west was acreage development and could not be included in the initial plan.[79] Since 1960, the acreages have been rezoned, a few at a time, for apartment development. Though apartment housing was required in the city as a whole, some of the apartments were not well located in relation to the single-family housing in the neighbourhood units. The population increase as a result of the apartment developments caused crowded schools and inadequate park space. In addition, access to some of the apartments was gained by using streets passing through single family housing areas or by back lanes shared with single-family housing. Consequently to provide some form of privacy from the heavy lane traffic, high fences have been erected on single-family lots to help screen the yards.

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[76] Minutes, Technical Planning Board, April 28, 1953.

[77] For example, see Minutes, Technical Planning Board, May 18, 1960.

[78] Minutes, Technical Planning Board, December 11, 1957.

THE FAIRVIEW NEIGHBOURHOOD

This section is a case study of residential development using the neighbourhood unit concept during the planning period 1954-63. The example is the Fairview subdivision, planned in 1958 by a private developer. It was chosen because it is a good example of a controlled and comprehensive neighbourhood unit development and because enough background information was available for a complete analysis.

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[79] *Ibid.*, July 17, 1963.

Planning Area (Figure 14 and Plate 8)

Fairview is located in the southern portion of the city within five miles of the city centre (Figure 8). A major thoroughfare to the west, the Macleod Trail, provides direct access to the centre of the city. To the north and east are major industrial areas while to the west and south are other residential subdivisions. The site of the actual neighbourhood unit has a gently rolling terrain which lends itself to attractive neighbourhood designs.

An outline plan for the future development of the property was first submitted in 1957. In addition to the land occupied by the Fairview neighbourhood, the plan included large areas to the south and east tentatively allocated at the time for residential and industrial development.[80] The schematic plan of such a large area (four sections) illustrated a trend towards large-scale planning.

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[80] Ibid., May 29, 1957.

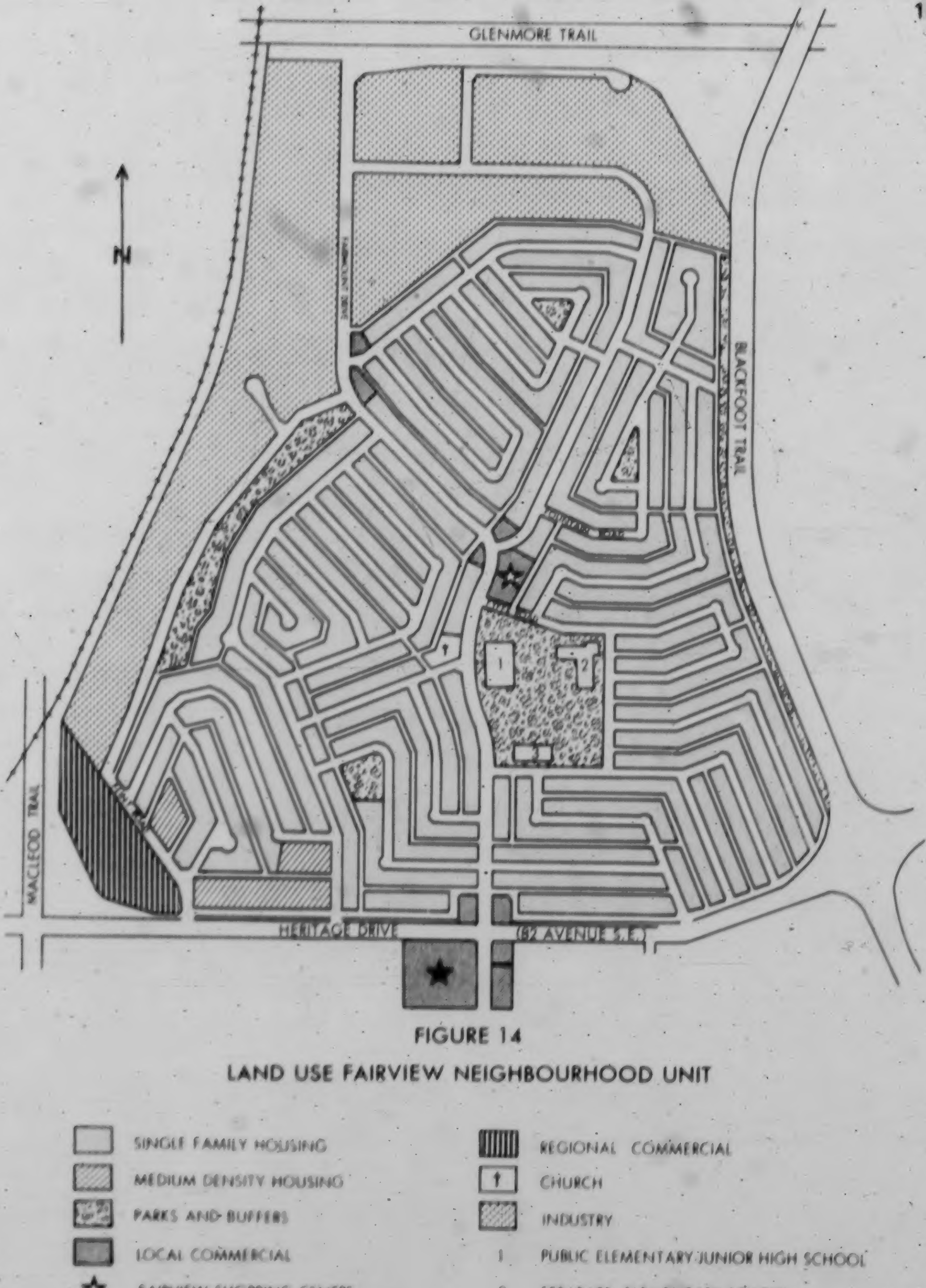
GLENMORE TRAIL
BLACKFOOT TRAIL
MACLEOD TRAIL
HERITAGE DRIVE
(62 AVENUE S.E.)
N
1
2

FIGURE 14

LAND USE FAIRVIEW NEIGHBOURHOOD UNIT

☐	SINGLE FAMILY HOUSING	▥	REGIONAL COMMERCIAL
▨	MEDIUM DENSITY HOUSING	†	CHURCH
▩	PARKS AND BUFFERS	▦	INDUSTRY
■	LOCAL COMMERCIAL	1	PUBLIC ELEMENTARY-JUNIOR HIGH SCHOOL
☆	FAIRVIEW SHOPPING CENTRE	2	SEPARATE ELEMENTARY SCHOOL
★	ACADIA SHOPPING CENTRE	3	COMMUNITY CENTRE

Source: Field Survey 1973

0 1000 Feet

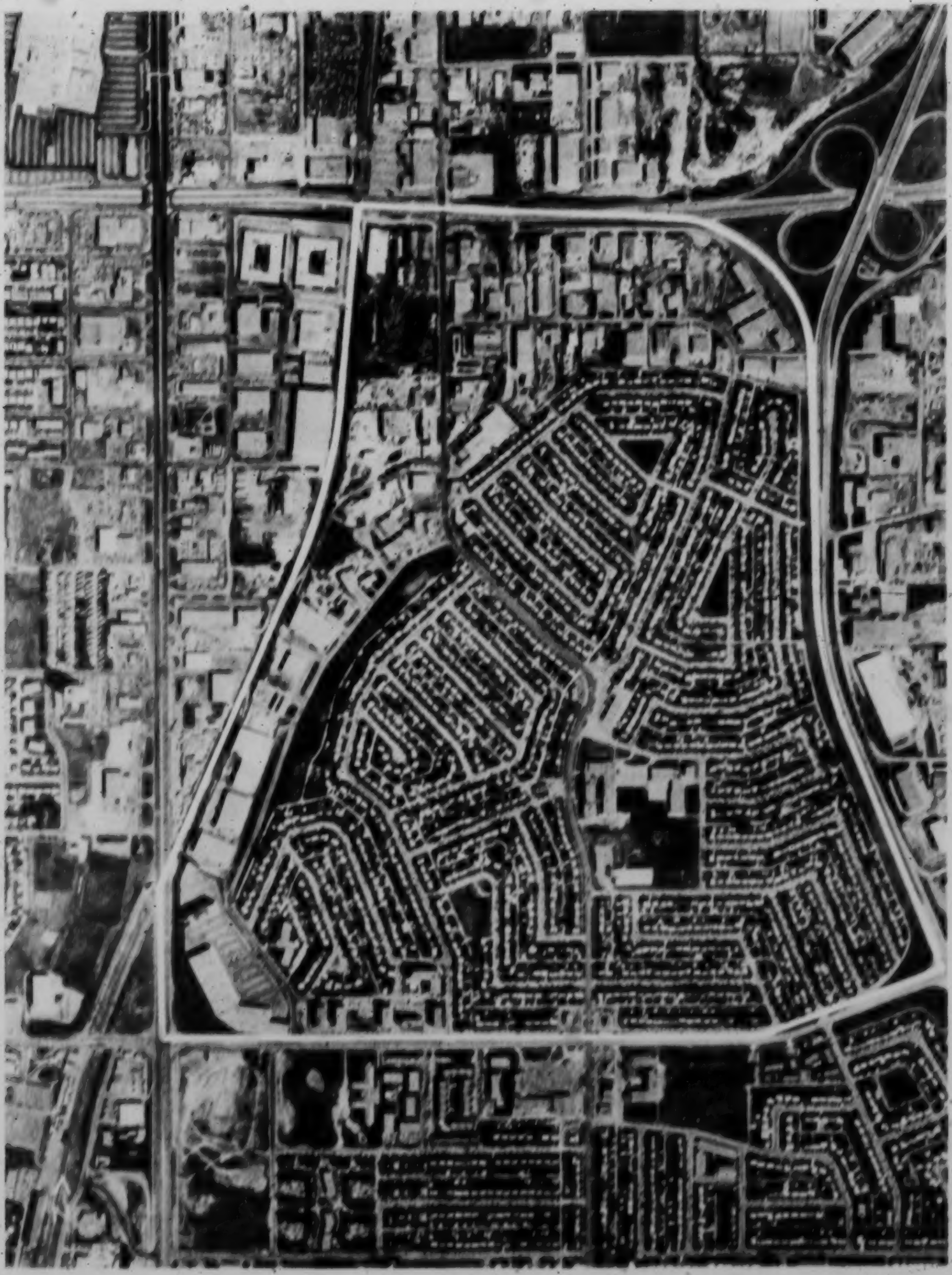

Plate 8

Fairview Neighbourhood Unit

0 1000 Feet Source: Machair Survey Ltd., Calgary, 1974

Detailed planning over large areas is a worthy objective since provision can be made for land uses (eg. transportation) which need to be planned in relation to the whole city. In the Fairview outline plan, the approximate location of the Glenmore-Ogden By-pass to the north as well as a major truck by-pass, the Blackfoot Trail, to the east were decided upon at an early stage. Detailed neighbourhood planning then began within the limits set by the major thoroughfares.

The total area of Fairview is 393.5 acres, of which 300 acres was designated residential and the remainder industrial.[81] Usually, industrial zones are located well away from residential areas to avoid depreciation of property values but, in Fairview, an industrial area was located close by. The developer gave three reasons.[82] The first was a suggestion that it was convenient for those working in the industries to have their homes located nearby. Secondly, it was claimed that the high standards of neatness and cleanliness of modern industries would have a beneficial effect upon adjacent residential land values. Thirdly, the industrial areas were also located to serve as buffers between the residential area and the arterial thoroughfares. Although the location of the industrial section does result in a greater distance between the residential area and the well-travelled arterials than would otherwise be provided, limitations in the design are evident. The industrial section to the west is separated from the nearest residental section by a community reserve buffer strip, but the industrial area to the north is immediately adjacent to houses and both functions use the same back lane (Plate 9). A more effective design would have been tc provide a wide buffer zone and to segregate industrial and residential traffic.

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[81] *Ibid.*, February 24, 1960.
[82] Edgar H. Davis and G. Elmer Gordon, "Fairview - A Planned Development," *Community Planning Review*, Vol. VIII, No. 4, December, 1958, p. 131.

Street Pattern

As pointed out previously, the locations of the major thoroughfares in the area were decided upon first, and the detailed planning of Fairview followed. In addition to providing access to other parts of the city, the thoroughfares served an important planning function by defining the planning area, and by acting as boundaries for the development. Using arterials as boundaries is exactly as Perry recommended when outlining the neighbourhood unit concept. On the north the area is bounded by the Glenmore-Ogden By-pass while on the east is the major truck route, the Blackfoot Trail. To the west is the Macleod Trail and,

Plate 9

Lane Separating Industrial and Residential

Land Use in Fairview

Plate 10

Fairview Shopping Centre

lastly, to the south is Heritage Drive, a major thoroughfare which separates Fairview from Acadia, the neighbourhood unit to the south. Fairview then has a distinct identity being surrounded on all sides by major thoroughfares.

A secondary collector, Fairmount Drive, passes through the centre of the neighbourhood unit. Designed as an internal collector and distributor and intended to serve the neighbourhood itself, the route was given a meandering course to assist in keeping out high speed through-traffic. Despite this feature, several limitations are evident in the design. First, the route feeds directly into the main stream of traffic on the Glenmore Trail and second, it extends several miles to the south through neighbourhood units developed after Fairview. As a result, Fairmount Drive forms part of a continuous system and functions as an arterial roadway. Also contributing to this situation is the Fairview shopping centre (Plate 10) which was located in the centre of the neighbourhood thereby encouraging outside traffic to come in. Though appearing to be contradictory, the plan was defended as follows:

> Since this particular commercial district is on the secondary thoroughfare, it may also serve adjacent subdivisions to the south, therefore making its operation more efficient and large enough to be of better service to the district

in which it is situated.[83]

The streets on which the residences are located are, in almost all cases, not through streets but are either looped or dead-ended. This means that only those cars which have a definite destination at a relatively small group of houses, are actually on a residential street. The terrain aided in this arrangement since the internal collector, Fairmount Drive, follows "the height of land" through the neighbourhood, while on either side are situated small house groups.[84]

Community Reserve

Section 11(1) of the Subdivision Regulations required the 10 per cent compulsory community reserve dedication to be used for school and other public purposes.[85] Although school needs had priority in the use of public reserve, other public purposes included a variety of uses. Small ornamental parks are placed throughout the neighbourhood unit, although they are a questionable community reserve use since they cater to the residents of select groups of houses rather than to the community as a whole.

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[83] Ibid., p. 133.
[84] Ibid., p. 135.
[85] Subdivision Regulations (1953), Section 11(1).

Community reserve land was also used for buffer strips in Fairview, one on the east side along the Blackfoot Trail and the other between the industrial and residential areas on the west side of the neighbourhood. Although the buffer strip on the east side allows a greater distance between the houses and the arterial than would otherwise be provided, it can also be criticized as a poor use for community reserve land since it does not serve the whole neighbourhood. The buffer on the west side appears to be a good use of community reserve since it effectively separates the industrial and residential areas and is also used as a playground. As a result of the slope of the land, the buffer was accepted as community reserve only as a 2:1 basis; that is, each two acres of hillside land was equated with one acre of the community reserve requirement.**

The Planning Act provides that up to 40 per cent of the area of any subdivision can be use~~d~~ for public purposes, 10 per cent in community reserve and the remainder for streets and lanes. In Fairview, as with other subdivisions, it was discovered that 30 per cent was not enough for streets if proper interchanges were to be provided as well. To overcome the problem and, at the same time, to avoid buying the land,

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** Minutes, Technical Planning Board, January 27, 1960.

the city took the land required for interchange purposes (over six acres) from the community reserve. This is also difficult to justify.

The remainder of the 10 per cent was used for a 14 acre central reserve containing a combined elementary-junior high public school, a separate elementary school, and a community centre building containing a meeting hall and an ice arena. The central reserve is within a half mile radius of all housing in the neighbourhood unit, and is thus easily assessible to all residents, particularly children attending school.

As of July, 1958, reserves were provided as follows:

14.00 acres	School and community reserve
2.01	Small parks and playgrounds
8.18	Buffer zones
6.26	Interchange reserves
30.45	10 percent of residential area[87]

Commercial Land Uses

The Fairview design differs from Perry's ideas on commercial location and from most other neighbourhood units in the city in that the major commercial centre is located in the centre of the neighbourhood. A layout first proposed had placed the commercial centre on the east side of

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[87] Letter from J.H. Bassie to C.B. Cummer, July 17, 1958.

Fairmount Drive taking up the entire block between Fyffe Road and Fountain Road. Only half of this particular area though was eventually developed commercially. The shopping centre, as built, contains twelve small shops catering to the day to day needs of the neighbourhood. These include a small food market, two realtors, two hairstylists, a butcher shop, a restaraunt,a shoe store, a carpet sales outlet, a bowling alley and a billiard hall (Plate 10). The development of a larger shopping centre containimg a major supermarket, in the Acadia neighbourhood immediately to the south, likely caused the Fairview centre to be smaller than originally envisaged. In 1959 the corner lots immediately across from the shopping centre were rezoned from residential to local commercial and proposed as service stations. (A foodstore was later developed on one of the sites). Curiously, the Board took a very detached position with the rezoning application. It recommended approval on condition that the developer "... assumed complete responsibility for the classification."** The Board also indicated that it was the developer's responsibility "...to deal with any complaints in connection with the matter and to submit to the City Planner a letter of approval from the purchasers of lots in the immediate vicinity."** At the

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** Minutes, Technical Planning Board, February 18, 1959.
** *Ibid*.

time, the developer owned all adjacent lots except two from which he obtained letters of approval, so the application was approved. The decision appears to have been a poor one since, through observation, traffic congestion occurs at the intersection because of confusion over the entrances to the commercial sites on the three corners. As a further indication of poor planning, when the development of one of the service station sites was proposed, the residents were incensed about the actual development of the site and had presented a petition to council opposing it.[90] A more reasonable alternative would have been to consolidate all commercial functions into one parcel thereby reducing traffic congestion, minimizing conflicts between residential and commercial land uses, increasing safety, and making a more, aesthetically pleasing neighbourhood centre. In contrast to the service stations in the centre, two other service stations located at the south entrance of the neighbourhood on Heritage Drive are separated from the surrounding residential area by roads. In addition to serving the neighbourhood residents, they also cater to arterial traffic but, more importantly, they do not disrupt the residential environment. Two other small shopping centres were planned for at the north entrance of the neighbourhood, on Fairmount Drive, to serve traffic entering and leaving the residential area (Plate 11). It may be that too much commercial space was provided at this location since one centre was not constructed until 1973.

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[90] Ibid. June 5, 1963.

A regional shopping centre containing two large speciality stores, a drug store and a building materials outlet is located on a large parcel in the south west corner of Fairview. Careful planning, though, does not appear to have taken place. Since the parcel was on a corner location, it was likely thought that a commercial facility was the most suitable land use. However, to avoid traffic congestion, direct access to Macleod Trail was never allowed. Because of this restriction, the area remained vacant until 1973. The importance of easy access to a commercial facility cannot be overemphasized. Since there was a large amount of vacant space in the office tower on the north end of the site in 1973, lack of direct access may be hampering the economic viability of the centre.

When Fairview was first planned, the major objective was to create a "self-contained neighbourhood."[91] All of the usually required community facilities were to be provided within the neighbourhood; stores, parks, schools, recreation

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[91] Davis and Gordon, *loc. cit.*

Plate 11

Convenience Shopping Centre, Fairmount Drive facilities, and churches. Initially, two church sites were set aside, both next to each other on Fairmount Drive. Their locations were defended as follows: "Since the commercial parking areas are not used on Sunday, and in order to increase the general overall land use, the churches have been placed adjacent to the commercial parking areas, but far enough away that their activities will not be interfered by the commercial centre."[92] Subsequently, in 1961, one church was developed but, in contrast to previous expectations, patrons do not use the shopping centre parking lot. Field inspection revealed that vehicles were parked in a small church parking lot or on nearby streets. A half block to the shopping centre parking lot was found to be too far to walk.

Housing

The layout initially proposed designated the entire neighbourhood unit for 1,100 single-family homes with a population estimated at between 3,500 and 4,000 people.[93] This estimate corresponds to the 12 persons per acre standard adopted previously (300 acres x 12). In 1959, however, the Board agreed to rezone two parcels of land in the southwestern portion for apartment sites. Subsequently, in December 1960, the Board approved the development of the first apartment project. Located on Fairview Drive at 82 Avenue, the development originally consisted of five apartment buildings, each containing twelve three-bedroom units, eight two-bedroom units, and ten one-bedroom units.[94] Since the site abutted a major thoroughfare, 82 Avenue, Section 39 of the Zoning Bylaw required the Board's approval of the building materials. They were found satisfactory. The site is well-suited for apartment development for two reasons. First, it is located along a major thoroughfare and serves as a buffer for the single-family residences and second, it is a group development and little conflict appears to exist with the single-family residences in the area.

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[92] Davis and Gordon, *op. cit.*, p. 135.
[93] *loc. cit.*

The second site reserved for apartments was approved for development in 1965. Located on Flint Road, the site presented some problems. The architect for the development argued that a high tower would have a less damaging effect on the amenities enjoyed by the surrounding residents than a long apartment building 40 feet high which was what the existing zoning, R4, allowed. The Calgary Planning Commission (successor to the Technical Planning Board) after reviewing the application agreed to rezone the site to R-4X which allowed the development of a building up to a height of 150 feet stating:

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[94] Minutes, Technical Planning Board, December 21, 1960.

> It appeared that there were three houses only which had their principal view across the apartment site. The remaining 16 houses affected had a principal view onto the avenue away from the apartment site. The base of the highest houses affected was at the height of 3,474 feet above sea level, as compared with 3,458 to 3,464 which were the heights of the location where the apartment would be constructed. The Commission concluded that the existing zoning would allow the construction of a building at least 300 feet long and 40 feet in height which would effectively cut off any view which the surrounding residents enjoyed over the apartment site. The contention that the thin tower which was the alternative under R-4X, would be in the best interest of the community and thus justified.[95]

Upon observation, it appears as though any apartment development on this site was questionable (Plates 12, 13, 14, and 15). The site is surrounded on three sides by single-family housing. In addition, access to the apartment building is gained through backlanes shared with single-family residences thereby creating heavy traffic on the lanes. Finally, the tower itself dominates the area and invades the privacy of the residences in the single-family housing.

As of 1971, the population for the neighbourhood had

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[95] *Ibid.*, April 7, 1965.

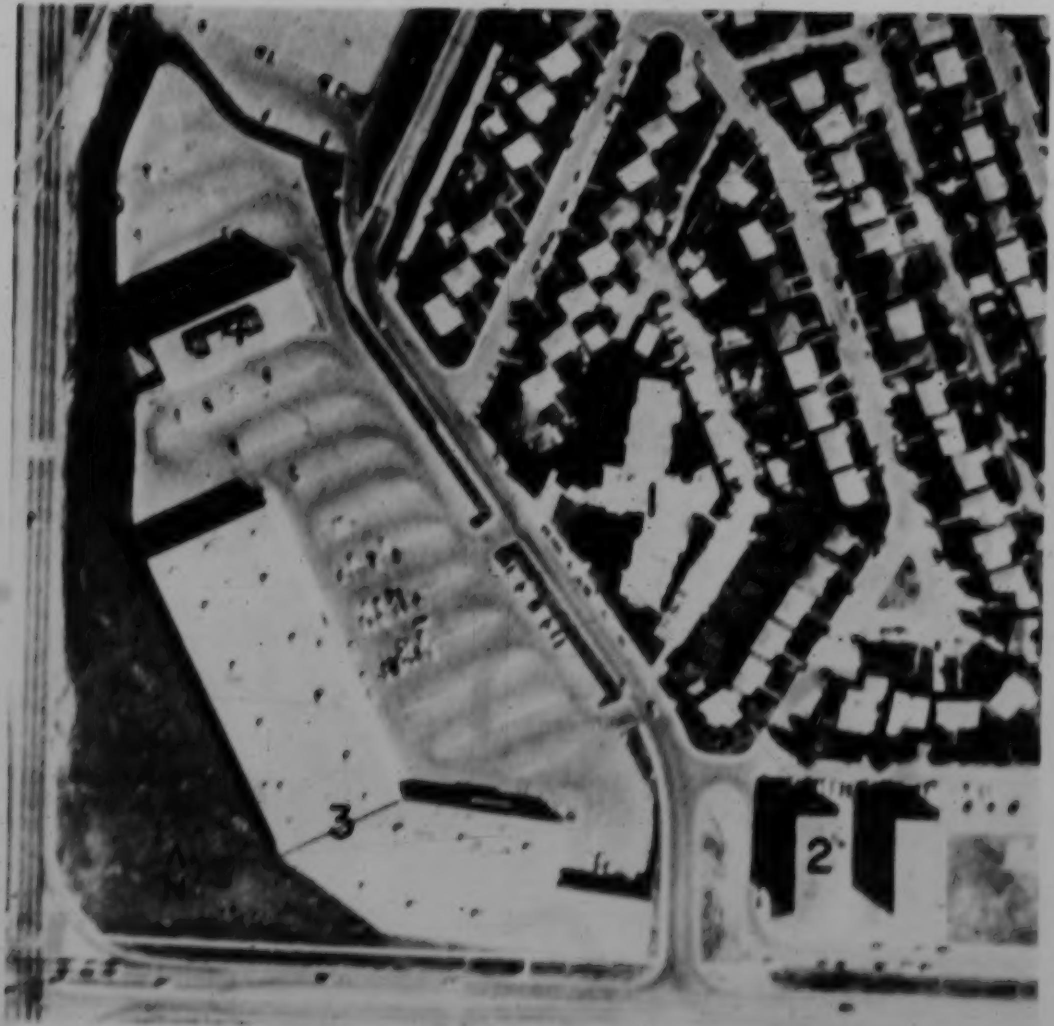

Plate 12

Southwestern Fairview

1. Flintridge Place Apartments
2. Apartment Development, Approved in 1960
3. Regional Shopping Centre
4. Office Tower

0 250 Feet Source: Machair Survey Ltd., Calgary, 1974

Plate 13

Flintridge Place Apartments, Fairview

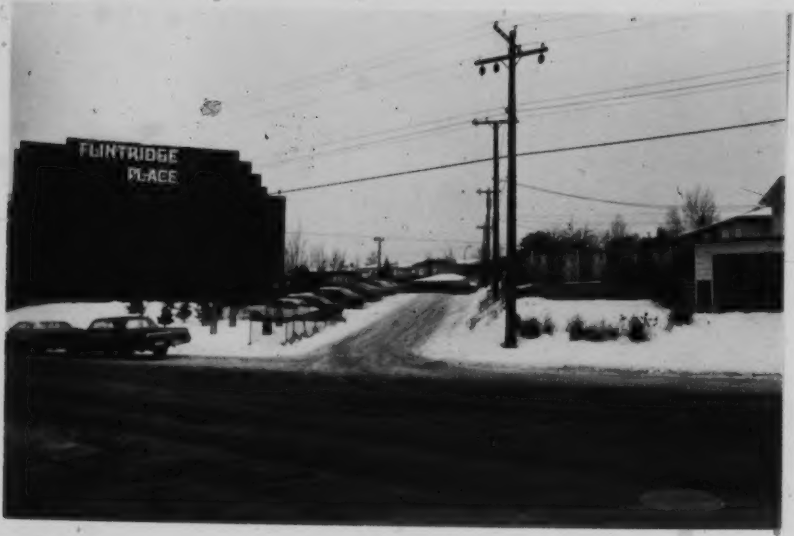
FLINTRIDGE
PLACE

Plate 14

South Lane, Flintridge Place Apartments

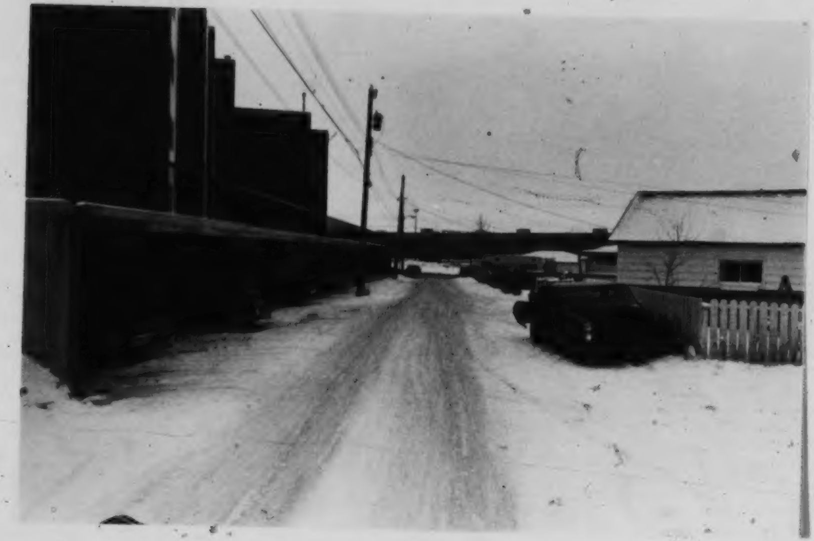

Plate 15

North Lane, Flintridge Place Apartments

stabilized at 6,200, a figure considerably higher than the 3,500 to 4,000 originally predicted.[96] This increase was due in part to apartment construction but was also the result of an initial underestimate. After the neighbourhood was developed, it became apparent that the 12 persons per acre standard was too low. The number of persons per household was closer to 4.0 than 3.5. Since an addition to the public school was required, this larger than anticipated population did place some strain on community facilities.

CONCLUSION

The planning period just reviewed witnessed the evolution of basic residential planning policies for the city. Although many problems were faced during the period, as the policies were clarified, they acted as guides towards better planning.

The overall influences affecting planning are evident. Research material often referred to the *Subdivision and Transfer Regulations* which have had an extremely important influence on every land use associated with residential development. Another important overall consideration was the land ownership pattern which encouraged more large scale planning and the use of the neighbourhood unit concept. The two other overall influences were the zoning controls and the mortgage companies which both contributed towards the use of the neighbourhood unit concept.

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[96] Government of Canada, Census of Canada, 1971, *Calgary Census Tract Bulletin*, March, 1973.

Basic planning policies were established for all land uses related to residential development. A first step was a policy requiring a system of streets based on size and function. This was quickly followed by policies requiring designs which eliminate through traffic from residential areas and forcing a consistent approach to the naming of streets and subdivisions. These policies, of course, reflect the principles of the neighbourhood unit concept as advocated by Perry. The desire to have the most efficient use of community reserve areas led to two important steps, the Joint Sites Agreement and reserve deferrals. Although ribbon commercial developments continued, the planning period also witnessed the introduction of neighbourhood and regional shopping centres. Basic criteria on the location of different housing types were also established.

The analysis of the Fairview neighbourhood reveals the progress which had been made in the planning of residential areas as compared to earlier subdivisions such as Knob Hill. The neighbourhood has a well-defined boundary. In addition to planning for a larger area, the relationship of the subdivision to the rest of the city was also considered. The plan used a street system which attempted to reduce through traffic, thereby providing a safer and more pleasant environment. Careful consideration was also given to the use of community reserve land. Several defects are evident with the commercial land uses, though residents are assured that all commercial functions catering to day-to-day needs are present. The unanticipated population increase, plus evidence of conflicts between housing types, emphasizes the necessity of having careful planning from the outset.

CHAPTER VI

SECTOR PLANNING 1963 - 1973

Generally, during the period 1954 to 1963, residential land use planning for new areas was based on neighbourhood unit principles. The objective of this section is to describe, and analyze the major principles used in the planning and development of residential areas in the period from 1963 to 1973, particularly to determine what changes were made, and why. Approval of the General Plan in 1963 marked the beginning of a major reorientation of residential land use planning in Calgary. In response to changing conditions, previous policies were clarified, revised, or rejected, and new policies were adopted and sometimes later improved if necessary. The most significant overall change was a trend towards large scale planning and development which can best be described as a transition from the use of neighbourhood size planning units to much larger units termed sectors. The aim here is to discover why and how this change occurred.

The discussion begins with a brief description of the general factors which influenced the planning of residential areas during the planning period, continues with an analysis of the changes which occurred to street design, provision of parks and schools, commercial facilities and housing, and concludes with a case study of planning under the sector concept.

LEGAL AND PROCEDURAL FACTORS AFFECTING RESIDENTIAL LAND USE PLANNING 1963 - 1973

Approval of general plans in 1963, 1970 and 1973, changes in municipal and provincial planning legislation, and further refinements in planning procedures were the major overall factors which influenced the development of new residential areas during the planning period under review.

Master Plan

Although work on a master plan began with the appointment of Eric Thrift as a planning consultant in 1949, the city since that time had been growing so rapidly, and the planning department had such a small staff that there was little time for anything but routine development control. Long range planning was forced into the background.[1]

The City Commissioners, in a 1960 report, advised that it had been found necessary to make a complete overhaul of the existing planning machinery so that a more effective and comprehensive programme could be developed and implemented within the scope of the recently revised Town and Rural Planning Act.[2] In line with the Commissioners' recommendations, a Planning Advisory Commission was established to review all major policies concerning planning, including a review of the master plan for the city and the implementation of that plan by way of direct recommendations to Council for approval.[3] Following intensive work by the Commission, City Council in September, 1962 adopted the General Plan in principle and in August, 1963, gave final approval.[4]

Adoption of the plan was a major step because its preparation forced the establishment and clarification of planning principles to guide the large growth predicted for the city. The principle of particular importance to residential development was the use of sectors as a planning concept. While having no legal significance, schedules to the plan were prepared for five large areas where new growth was expected to occur. These were called sectors and varied in size from 942 to 3185 acres.[5] Each plan was a general scheme of subdivision showing the relationship of school sites major and secondary throughfares, services, and general land uses within the whole area.

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[1] Per. com. from D. Crerar, Subdivision Processing Officer, City of Calgary Planning Department, November 13, 1973.

[2] Minutes, Planning Advisory Commission, December 8, 1960

[3] Ibid., and Bylaw 5570, Planning Advisory Commission, 1960.

[4] Bylaw 5997, General Plan, August 19, 1963.

Provincial and Municipal Planning Legislation

The change to the use of larger planning units had its origin in part in Section 5 of the Subdivision and Transfer Regulations.[6] This granted discretion to the approving authority to require the applicant to submit an outline plan of an area larger than the land under subdivision where there was no overall plan to which the site plan of the application could be related. Once an outline plan had been approved, the applicant could then submit an application for approval of the subdivision of any part of the area covered by the outline plan. The sectors described in the General Plan fulfilled the requirements of an outline plan and provided a framework within which detailed subdivision design could be undertaken.

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[5] Supplement to the 1963 General Plan, Group G. "Sector Plans."

[6] Subdivision and Transfer Regulations, Section 5, O.C. 185-60.

The city's land use control system experienced many difficulties after 1963. As mentioned previously, Zoning Bylaw 4916 was approved in 1958. This bylaw, with revisions, remained in effect until February, 1969 when the terms and revisions of the bylaw were consolidated in a new zoning bylaw (7500). In September, 1969, the Alberta Court of Appeal ruled that Bylaw 7500 repealed 4916 and was thus a new zoning bylaw and, under the terms of the Planning Act, required a public hearing. Since no public hearing had been held, the court declared Bylaw 7500 invalid.[7] The situation was further complicated since Bylaw 4916 was passed before the General Plan and under Section 68 of the Planning Act, a new bylaw must be prepared in accordance with the general plan.[8] Bylaw 4916 had therefore been invalid since the General Plan was passed in 1963.[9] Furthermore, Section 98 of the 1963 Planning Act required City Council to review the General Plan once every five years, which meant that the 1963 General Plan became invalid in August 1968.[10]

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[7] The Albertan, March 16, 1970.

[8] Province of Alberta, Town and Rural Planning Act, Revised Statutes of Alberta 1955, Chapter 337, Section 68.

[9] The Albertan, loc. cit

[10] Province of Alberta, Planning Ac, Revised Statutes of Alberta, 1963, Chapter 43, Section 98.

To replace Zoning *Bylaw 7500*, City Council, in March 1970, approved Development *Control Bylaw 7839* as an interim measure until a new zoning bylaw was approved and the general plan revised. Shortly after, *Bylaw 7839* was also called in question but before the appeal could be heard before the Supreme Court, *Development Control Bylaw 8600* was enacted in June, 1972. This was the land use control in effect in 1973.[11]

Meanwhile, a new general plan, *The Calgary Plan* was given first reading in September, 1970 and eventually approved in April, 1971.[12] This plan was again revised in 1973.[13]

Dissatisfaction with *Zoning Bylaw 4916* appears to have been a major reason for the difficulties experienced with the land use control system. Basically, a zoning bylaw divides a municipality into land use districts and prescribes the uses permitted as a right in each district or zone. Its chief strength is the protection of established land use patterns but it ignores the processes of growth and change. Development control, on the other hand, is more suitable than zoning for planning and regulating the growth of new suburban areas since it permits the fullest account to be taken of altered circumstances and conditions, while allowing for spontaneity and innovation.[14] As in the earlier interim development period during the 1950s, under Development Control more emphasis is placed on comprehensive planning. Each application is judged on its own merits providing the proposed development conforms with the general plan being prepared or adopted.[15]

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[11] Minutes, Calgary Planning Commission, March 28, 1972

[12] *Bylaw 8011*, The Calgary Plan, April 5, 1971.

[13] *Bylaw 8775*, The Calgary Plan, May 28, 1973.

Development control began in an indirect way in 1961 through an amendment to the zoning bylaw. As a result of large scale annexations in that year, a new zoning category, the Direct Control (DC) district was added to the bylaw. This category included all land areas which were not zoned "... because of inadvertent omission or by reason of an order annexing such lands to the City after the enactment of the Zoning Bylaw or for any other cause."[16] In DC areas, farms over 20 acres were the only permitted uses, but (and here is the similarity to development control) conditional uses could include "all other uses as approved by the Planning Commission on the merits of each individual application."[17] Due to its flexibility, the Direct Control district has been used extensively since, particularly for multiple housing projects.

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[14] City of Calgary, The Calgary Plan, 1973, p. 14.5.

[15] Province of Alberta, Planning Act, 1963, Section 100, Subsection 2.

[16] Bylaw 4916 as amended by Bylaw 5786, December 20, 1961.

[17] Zoning Bylaw 4916, Table "QA", 1965.

A further change which requires mention was the remaining of the Technical Planning Board to the Municipal Planning Commission as required by revisions to the Planning Act in 1963.[18] This was done mainly to suit the smaller municipalities which did not have sufficient personnel to form a technical planning board.[19] The newly established Municipal Planning Commission, though, had membership provisions similar to Bylaw 4237 which establihed the Technical Planning Board in 1951. To accommodate minor membership changes, Bylaw 6140 was repealed in September 1967 when it was reconstituted under Bylaw 7114.[20]

Comprehensive Planning

The required use of outline plans after 1960, and approval of the General Plan in 1963, set the trend towards larger planning units. After 1963, the Planning Commission, as policy, began to require the submission of outline plans before plans of subdivision.[21] Through experience, it was realized that small scale planning usually led to later land use conflicts. The desire to avoid these conflict situations is evidenced by a City Council motion in 1963 requiring "That in future subdivisions, a plan be prepared covering the whole subdivision and not portions of it ....[22] Reflecting similar concerns, the Calgary Municipal Planning Commission in 1964 passed a detailed resolution outlining their policy on the subdivision of raw land. The following excerpt illustrates the Commission's concern for orderly development.

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[18] Bylaw 6140, Municipal Planning Commission, July 27, 1963.

[19] Wah May Winnie Chan, The Impact of the Technical Planning Board on the Morphology of Edmonton, unpublished M.A. Thesis, University of Alberta, Edmonton, 1969, p. 20.

[20] Bylaw 7114, Municipal Planning Commission, September 25, 1967.

> In the AR -Agricultural (Future Residential) Zone, in order to facilitate and not to hinder the future development of land in the zone for neighbourhood purposes, no land shall be subdivided unless:
>
> (a) The subdivision, being in accordance with the development programme established in the General Plan, breaks down the existing parcels in the area in question into sites for residential and other purposes necessary for the establishment of residential neighbourhoods and communities, or
>
> (b) The land is subdivided according to such an approved outline plan as may be required by No. 5 of the Subdivision and Transfer Regulation which provides for the intermediate breakdown of existing parcels into smaller parcels which, in turn will at a later time be subdivided into sites for residential and other purposes necessary for

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[21] For example, see Minutes, Calgary Planning Commission, January 20, 1965, March 23, 1966, October 5, 1966 and April 19, 1967.

[22] Letter from City Clerk to A.G. Martin, August 6, 1963.

> the establishment of residential neighbourhoods and communities....[23]

The continued emphasis on large scale planning led to two procedural innovations. Supporting the principle of phased development as outlined in the General Plan and reflected in the Subdivision and Transfer Regulation, in 1968 the Planning Commission began to require the use of conceptual plans.[24] The purpose of a conceptual plan is "to enable coordinated and comprehensive planning to take place over a wide area, which may be covered by a number of different ownerships or where development will be phased over a number of years, and to develop any unique characteristics desired for the area without the need, initially, to cover the whole area in the detail required by an outline plan."[25] Those factors which need to be considered in a conceptual plan include boundaries, broad land use categories, vehicle and pedestrian circulation patterns, and general locations for various types of housing densities. The importance given by the Commission to the use of conceptual plans is evidenced by a Commission decision in 1970 refusing a development proposal which did not use a conceptual plan.[26] In this particular application, the influence of surrounding parcels, under different ownerships, was not taken into account.

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[23] Resolution of the Calgary Planning Commission, July 17, 1964 as amended July 24, 1964.

[24] Subdivision and Transfer Regulation, Section 14, O.C. 1019-67.

[25] City of Calgary Planning Department Report, Design and Processing of Subdivisions in Calgary, January, 1973, p. 6.

The second innovation, beginning in 1969, was a policy requiring the preparation of sector plans called design briefs before outline plans could be submitted. (The first design brief was published in 1971.) A design brief is a plan of an entire sector or part of a sector prepared by the Planning Department. It has objectives similar to the neighbourhood unit concept but on a much larger scale. The overall objective of a design brief is to promote a form of development in the public interest in terms of safety, economy, convenience, and aesthetics.[27] Each design brief must ultimately be approved by City Council. This procedure not only allows council to become aware of new developments, it also commits council to an agreed upon plan which can only be changed by council amendment. In those areas where design briefs have not yet been approved by City Council, Development Control Bylaw 8600 and the Land Use Classification Guide associated with it are the prime regulators of land use patterns and development.[28] Figure 15 illustrates all of the sectors. Design briefs and sector plans are discussed in detail later on in this chapter.

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[26] Minutes, Calgary Planning Commission, September 23, 1970

[27] City of calgary Planning Department, Silver Springs Design Brief, August, 1971, approved by City Council on October 4, 1971, p. 3.

GENERAL RESIDENTIAL DESIGN 1963-1973

Residential Planning Area

As originally conceived by Perry, a neighbourhood unit was a small, self-contained residential area focused on an elementary school but also including other community facilities such as parks, a community centre, churches, and convenience shops. In Calgary, by 1963, it was becoming apparent that the population that supports one elementary school was not large enough to support the principal social and commercial services required by the rapidly increasing suburban population. A "planning" approach for residential areas therefore had to be conceived at a larger scale than the neighbourhood unit so that it could embody all of the required services and, at the same time, reduce land use conflicts. The concept was described by Humphrey Carver in his book Cities in the Suburbs, published in 1962.[29] To give identity and physical shape to the suburbs, Carver suggested the development of town centres. These would include a major shopping centre as well as all of the necessary public facilities such as schools, libraries, churches, health clinics, fire and police stations, and so could function as a focal point for a group of three to four neighbourhoods.[30] "At this scale a community is comprehensive, with a full range of age groups in the population, and a full roster of social and commercial institutions."[31]

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[28] City of Calgary Planning Department Report, Residential Development in Calgary: Inventory and Prospect, December, 1973, p. 7.

[29] Humphrey Carver, Cities in the Suburbs, University of Toronto Press, Toronto, 1962.

The sector plans as proposed in the 1963 General Plan and later refined in the 1970 and 1973 Calgary Plans, reflected the basic planning principles as outlined by Carver. Each of the five sectors described in the 1963 General Plan defined a community with a population of between 20,000 and 30,000. In the plan, a sector was described as "the statement of an overall concept for the development of a geographical area of the city into an integrated community unit, which is usually bounded by such natural or man-made physical barriers as rivers, escarpments, railways, or freeways."[32] Because it was intended to provide a frame of reference for the developer before individual subdivisions were designed, a sector plan stated city requirements for the location of roads, utilities, public facilities such as parks and schools, and possible commercial sites. With the location of these basic land uses decided upon, subdivision applications could be coordinated. With the existence of a large scale plan, an efficient traffic circulation and transit system was possible, schools and parks could be sited to serve the greatest number of people in a convenient and economical manner, shopping facilities could be located to best serve the community, and incompatible land uses could be avoided.

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[30] Ibid., p. 64.
[31] Ibid., p. 60.
[32] Supplement to the 1963 General Plan, Group G, "Sector Plans."

By the time the 1973 Calgary Plan was approved, the principles governing sector planning were much more clearly defined and a more consistent and complete approval procedure had evolved. More sectors were established, not just in areas expected to be developed but also in existing areas (Figure 15). The sector boundaries for newly developing areas continued to be determined by the location of major thoroughfares or natural obstacles like the Bow River, but those chosen in developed areas are open to question. According to the 1970 Calgary Plan, the purpose of sectors in developed areas is to guide change and prevent neighbourhood decay through public participation.[33] Public

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[33] City of Calgary, The Calgary Plan, 1970, p. 12.3.

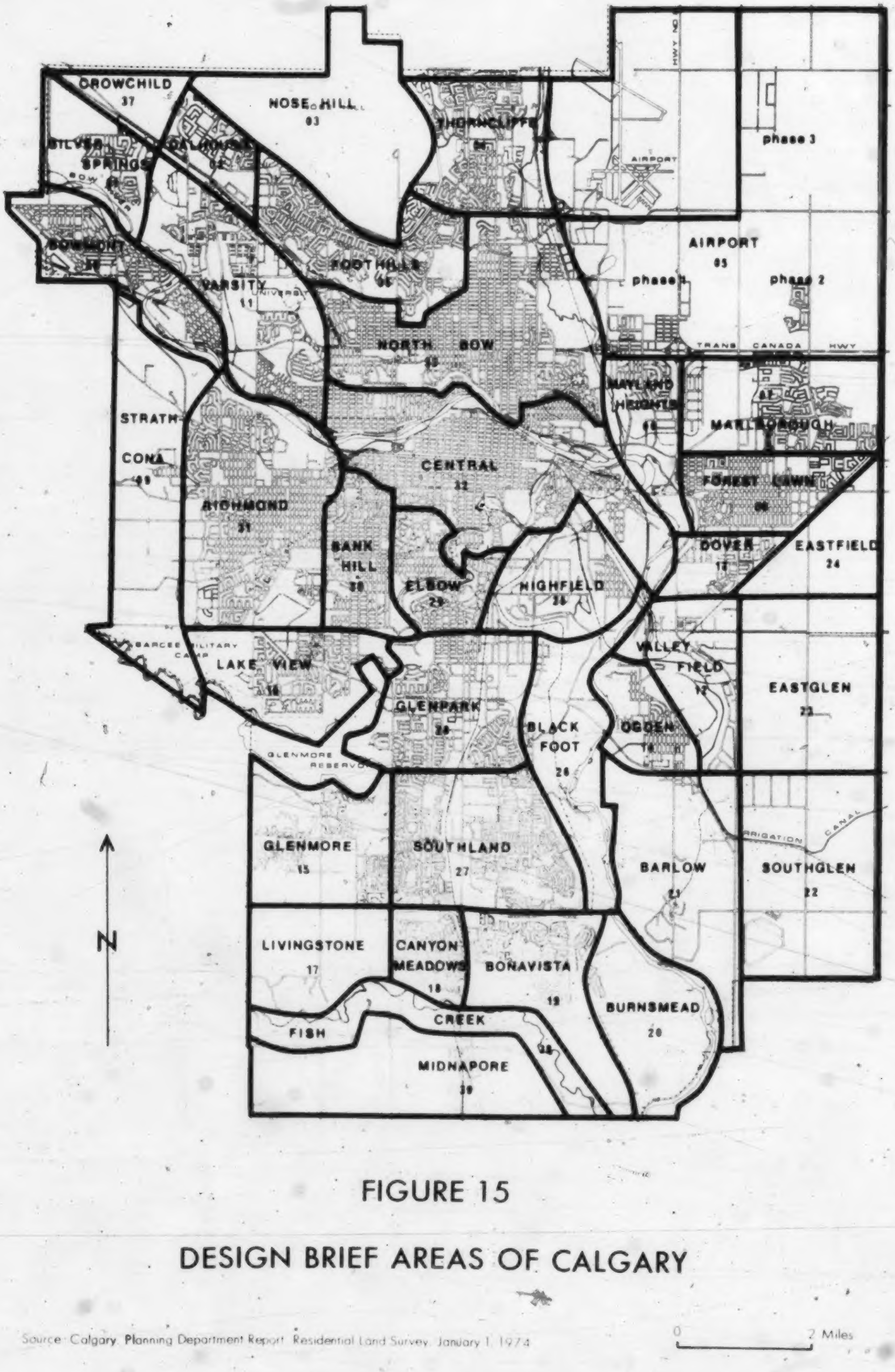
CROWCHILD
37
NOSE HILL
03
THORNCLIFFE
SILVER SPRINGS
DALHOUSIE
02
BOW
BOWMONT
VARSITY
11
UNIVERSITY
FOOTHILLS
05
HWY
AIRPORT
phase 3
AIRPORT
05
phase 1
phase 2
TRANS CANADA HWY
NORTH BOW
MAYLAND HEIGHTS
MARLBOROUGH
STRATH-CONA
CENTRAL
32
RICHMOND
31
BANK HILL
ELBOW
29
HIGHFIELD
FOREST LAWN
DOVER
13
EASTFIELD
24
SARCEE MILITARY CAMP
LAKE VIEW
16
VALLEY FIELD
12
EASTGLEN
23
GLENPARK
BLACK FOOT
28
OGDEN
GLENMORE RESERVOIR
GLENMORE
15
SOUTHLAND
27
IRRIGATION CANAL
BARLOW
21
SOUTHGLEN
22
LIVINGSTONE
17
CANYON MEADOWS
18
BONAVISTA
19
BURNSMEAD
20
FISH
CREEK
MIDNAPORE
39
N

FIGURE 15

DESIGN BRIEF AREAS OF CALGARY

Source: Calgary Planning Department Report: Residential Land Survey, January 1, 1974

0 2 Miles

participation in the planning process, though, is more likely to be successful if residents can identify with a distinct and unified area. This is not true of most of the sector divisions in existing areas. The Fairview neighbourhood, for example, was included within the Glenpark sector even though Glenpark was not planned as a unit. It contains a variety of land uses, including industry, is split by three major arterials and a railway line, and contains a regional shopping centre with a trade area much larger then the sector. Unified public participation appears doubtful in such a diverse area. The creation of large sectors which disregard the earlier neighbourhood unit boundaries, appears to be a retrograde step. It does illustrate, though, the new emphasis on the use of larger planning units.

In the 1970 and 1973 Calgary Plans, the basic principles used to plan a residential environment were outlined. As with the neighbourhood unit, the individual family unit was said to be the central consideration in deciding on the structures of residential areas.[34] More emphasis, though, appears to have been placed on several other principles. The first is the creation of a clearly defined road pattern to facilitate local traffic but discourage through traffic.[35] A second principle is the provision of individually well-defined pedestrian routes separated from vehicular routes and connecting homes to the main community facilities. This is an admirable concept since protection of the pedestrian has been too often neglected. A third principle is the creation of focal points. A focal point is defined in the Calgary Plan as a grouping of community facilities which are related to the needs of all members of the community, particularly children, mothers, and old people.[36] As an example, the Silver Springs Design Brief provides for two focal points. One contains a neighbourhood shopping centre and a combined elementary-junior high school.[37] By locating these facilities close to one another, it is hoped that more community interaction will occur. Propiniquity, though, is no guarantee of interaction: an organized program of community activities is also required.

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[34] City of Calgary, The Calgary Plan, 1973, p. 4.1.

When preparing design briefs, as many factors as possible which could affect the planning and development of a sector are considered. Natural features and site conditions, for example, are given careful consideration both as positive features to be emphasized and as possible constraints on development. With the Dalhousie sector, for example, the Planning Commission pointed out that the rolling terrain had potential for excellent view lots and facilitated the provision of a park system.[38] By contrast, the Marlborough area is generally flat or only gently sloping, so it was pointed out in the design brief that sewer and water servicing could be a problem.[39] Sector plans are also designed to be related to existing developments. With the Burnsmead sector, for example, it was recognized that adjacent land was developed residentially and also that the sector was located in close proximity to the recreation potential of the Bow River. Residential use was, therefore, recommended for the sector.[40]

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[35] Ibid., p. 4.10.
[36] Ibid.
[37] Silver Springs Design Brief, August, 1971, p. 1.

Sector planning also serves to prevent premature subdivision. Acreage developments, for example, are usually planned without regard to an overall plan and, as a result, are often by-passed when urban development occurs which, in turn, leads to the construction of unproductive and underutilized utilities, and uneconomic schools, garbage collection, and transit service. If acreage developments are allowed within a sector, the Commission requires that they be designed within the context of an approved outline plan.[41]

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[38] Minutes, Calgary Planning Commission, July 28, 1971.

[39] City of Calgary Planning Department, Marlborough Design Brief, September, 1971, approved by City Council December 6, 1971, p.6.

[40] Burnsmead Design Brief, August 1971, approved by City Council October 4, 1971, p. 1.

Sector planning also requires the participation of land owners and residents. Part of the Ogden sector, for example, had been developed for many years before the preparation of a design brief was undertaken. Residents of the sector were approached to determine their views on a plan for the area. The community subsequently recommended residential development of the area south of the sector to provide a population large enough to support all the basic community facilities.[42]

Design Innovations

The scale of sector planning units appears to have encouraged design innovations. For example, one subdivision which has received a good deal of admiration is Lake Bonavista. Containing over three sections, the focal point to the single family housing development is a 50 acre artificial lake.[43] A development of this size would not have been possible using the neighbourhood unit concept.

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[41] Minutes, Calgary Planning Commission, September 23, 1970.

[42] Ogden Design Brief, June, 1971, approved by City Council July 5, 1971.

[43] Minutes, Calgary Planning Commission, March 13, 1968.

Other residential innovations include subdivisions without lanes, walkways substituted for lanes, and housing turned around to face walkways rather than streets. Not all were acceptable to the Commission, though. For example, in 1967 was a proposal for a "no frill" subdivision which was to cut costs and pass the savings on to the purchasers by reducing lot sizes, increasing densities, and not providing all urban services. When reviewing the application, the Commission cautioned that it was most important that the development receive careful consideration "... to ensure that one need is not catered at the expense of another."[44] Their conclusion, though, was that the no frill subdivision appeared to be a step towards substandard development. No noticeable saving to the purchaser was evident and the Commission was quick to point out that an increase in costs could be the result if there was a subsequent demand for local improvements.[45] The philosophy underlying the Commission's decision was similar to that of the neighbourhood unit concept - the protection of property values through the creation of residential areas of lasting social and monetary value.

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[44] Ibid, October 4, 1967.

[45] Ibid., November 8, 1967.

Density Policy

In the 1963 General Plan, the residential land need was based on the assumption that the gross density of population for new residential development would average 12 persons per acre, a figure that was said to have been derived from an analysis of Calgary's birth and net migration statistics.[46] Although 12 persons per acre was predicted as the average density over all new residential areas, the density recommended for each sector varied somewhat, depending primarily on the density of existing development within the sector.[47] For example, in sector number one, where little development had occurred, the recommended density was 12.5 persons per acre while in sector number two, which included an existing subdivision, the recommended density was 15 persons per acre.[48] As a result of unknown factors, the population could vary substantially from the projected figure. This prompted the Director of Planning to point out that the general plan would be reviewed every five years.[49] Subsequently, it was discovered that the population density was higher than originally anticipated. As a result, by 1967 additional factors were used in an attempt to predict a more accurate future density. These included a calculation of average household size, the number of dwelling units per acre, and the types of housing proposed. The estimated gross density for new areas was then increased to 20 persons per acre, which assumed an average household size of 3.83 persons per unit, a gross residential density of 5.33 units per acre, and a strong preference (over 75 percent) for single family detached housing.[50] In 1968, however, it was discovered that suburban households were even larger than 3.83 persons per unit. The 1968 city census revealed an average household size of 4.02 persons per unit for all dwelling types constructed within the 10 year period 1958 to 1967, and an average of 4.47 occupants for each detached single-family house built during the same period.[51] The high figures were due to a preponderance of families with an increasing number of children in the suburbs. In planning for school requirements, it was realized that it would be uneconomic in the long term to allocate areas of land for school use at the larger scale required to satisfy initial, short-term needs. It was concluded, therefore, that, in view of the higher densities which were to be encouraged in new residential developments, to achieve greater economy of servicing costs, the areas of land to be reserved for school purposes must be for the intermediate term and to this end the adoption of mean figures between overall city averages and those for newly-built housing was recommended. The density suggested was 22 persons per acre.[52] This figure was arrived at by assuming an average household density for all types of housing of 4.0 persons per unit and a maximum gross density over a total developable area (usually a sector) of 5.5 units per acre which was determined on the basis of the average lot sizes for each type of dwelling unit as specified by the Subdivision and Transfer Regulations.

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[46] City of Calgary, General Plan, 1963, p. 24.

[47] Minutes, Planning Advisory Commission, February 2, 1961.

[48] Ibid., April 20, 1961 and April 27, 1961.

[49] Ibid

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[50] City of Calgary Planning Department Report, Residential Densities Sector Plans, Planning Department Files, August, 1969.

[51] Ibid.

Approval of a standard density figure was an attempt to secure stronger planning controls. The objective was to establish a guideline for determining the size of school and recreation facilities, roads, and utilities. With a standard agreed upon, the planning department was confident that all the required services could be provided.

In approving the 1970 General Plan, City Council also endorsed a policy of density transfer or credit. The principle is described in the Calgary Plan as follows:

> For all land within each Sector Plan Area considered by the Approving Authority to be unsuitable for building sites, density may be credited for development purposes to adjoining

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[52] Ibid.

land governed by the same Sector Plan.[53] Unsuitable land usually refers to areas with slopes in excess of 15 per cent. The Planning Commission, however, through negotiation with developers, went beyond this definition to include lands which were suitable for building development but which were required for public purposes.[54] In return for allowing the developer to retain the development rights or density for lands which the city would otherwise be forced to purchase, the developer agrees to deed these lands to the city. A typical example of density transfer is where the city obtains freeway right-of-way for nothing by allowing the developer to utilize the density from that land elsewhere in his development. This situation occurred in the Burnsmead sector, approved in 1971. The developer deeded the rights-of-way for the Blackfoot Trail and Anderson Road in return for density transfer, thus eliminating the need for the city to purchase 130 acres of freeway right-of-way.[55] With this policy, the density over the entire area remained at 22 persons per acre, but, the developer was able to develop to higher than normal densities, as the housing market at the time preferred, and the city was not required to purchase land.

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[53] City of Calgary, *The Calgary Plan*, 1970, p. 3.7.

[54] Letter from G.C. Hamilton, City Commissioner to M.H. Rogers, Director of Planning, September 23, 1971.

[55] *Burnsmead Design Brief*, August 1971, approved by City Council October 4, 19781, p. 7.

TRANSPORTATION SYSTEM

The basic planning principles for the city's street system were established during the previous period, 1954 to 1963. These principles included the use of a street classification system based on function, the development of street patterns which discouraged through traffic in residential areas, and the implementation of a same-name neighbourhood and street naming policy to encourage neighbourhood identity and simplify the process of locating an address.

Road Classification System

In response to changing demands, the roadway classification system was revised between 1963 and 1973. Formerly, all traffic generating facilities were located in the central business district , but, with the development of new activity nodes such as regional shopping centres and educational centres like the university, it was recognized that the size and location of roadways was dependent on the size and location of activity nodes. Recognizing this new form of growth, the street classification used in the 1963 *General Plan* was based on a nodal pattern with each street clearly defined according to size and function. It contained the following categories: local streets, primary collectors, arterials, high-standard express routes, and parkways.[56]

The principal purpose of a local street was to provide access to abutting property while the major function of the collector was to bring traffic from local streets to arterials and high-standard expressways. One problem evident with some subdivision designs was the difficulty of distinguishing between these two categories. As a result, traffic which is not strictly residential does penetrate residential areas.

An arterial had two functions, to move traffic and to provide controlled access. The conflict between access and movement is most commonly apparent with arterials so various traffic controls were suggested in the General Plan. These included the elimination of curb parking, the use of traffic signals, the provision of median strips and restrictions on left turns.[57]

The only function specified for a high-standard express route in the classification was the accommodation of high volumes of traffic.[58] At the time it was felt that Calgary would never require freeways with grade-separated intersections, overpasses, and fences.

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[56] City of Calgary, General Plan, 1963, p. 85.
[57] Ibid. p. 86.
[58] Ibid., p. 87.

As with the 1953 road classification, the 1963 plan included the parking category which referred to a roadway "within a park or a ribbon of park-like development."[59] This category is difficult to define and appears to be based primarily on subjective evaluation.

As the city expanded, deficiencies with the city's transportation system became more noticeable. In 1963, recognizing that the city was growing rapidly and would continue to do so, and realizing that careful planning and guidance were necessary to ensure orderly expansion, City Council established the Calgary Transportation Study.[60] The report, submitted in 1967, contained a detailed evaluation of the existing transportation system and a comprehensive transportation plan to the year 1986. The prime objective of the study was to develop a balanced transportation system consisting of a major highway network plus a mass transit system.[61] The term balance was used in the sense of providing an efficient road network for the private automobile but, at the same time, ensuring the provision of good transit facilities. Although it was pointed out in the report that one of the objectives of the study was to design a transportation system which would preserve the environment, a cursory glance at the roadway proposals clearly indicates that the central consideration of the study was the provision of an efficient means of movement for the private automobile. This conclusion is evidenced by the fact that many of the proposed major thoroughfares cut through established residential areas. One, for example, the 14th Street Expressway, if built will invade many neighbourhoods, some developed as recently as the early 1960s.[62] The task of providing an efficient transportation system and at the same time minimizing its adverse effects is a difficult one. It is recognized that suburban residential areas will continue to grow, and that they must be provided with an efficient transportation system. The travel destinations of residents living in the suburbs include the local shopping and community facilities but also places of work, the two most important being the central business district and the industrial areas. A long-standing policy of the city's has been the encouragement of a strong downtown as a place to live and work.[63] To reach the C.B.D.

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[59] Ibid., p. 88.
[60] City of Calgary, Calgary Transportation Study, Vols. I and II, 1967.
[61] Ibid., p. 6.

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[62] _Ibid_., Vol. II, 1967.

[63] City of Calgary Planning Department, _The Future of Downtown Calgary_, September, 1966, p. 26.

from the expanding suburbs, traffic must pass through existing residential areas. Disruption is inevitable.

The first major thoroughfares in the city of this type were developed during this planning period and one, the Crowchild Trail, is a good example of a disruptive influence. Completed in 1968, the route cuts through residential areas developed as early as the first decade of the century. Along the route, house setbacks are insufficient in many places and residents living in these locations are exposed to excessive noise, odours, and safety hazards. In addition, the expressway passes close by schools which were previously well away from heavily travelled streets.

The construction of arterials through established areas continues to be a point of contention but, apart from this difficulty, the basic principles established in the Calgary Transportation Study continue to guide the transportation planning for the city. The 1970 and 1973 Calgary Plans contain a road classification based on the study.[64] It is similar to the 1963 General Plan classification, except that it includes freeways and excludes parkways. Each category is clearly defined according to function, traffic volume, and access. Of importance to residential planning is the fact that the classification is used as a basis for sector planning. Each design brief must indicate the location of the major roads in the sector. As illustrated by Figures 16 and 17, freeways and expressways have limited access and serve as sector boundaries while major and collector streets feed from these routes.

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[64] City of Calgary, The Calgary Plan, 1973, p. 3.1.

Subdivision and Transfer Regulations

The most important influence affecting street design during the planning period remained the Subdivision and Transfer Regulations. The minimum standards set by the regulations in 1973 vary little from those of 1953. Under Section 19(2), a developer is required to dedicate up to 30 per cent of the gross area of the parcel being subdivided for roadway purposes.[65] Under Section 25(1)(a) of the Planning Act, public roadways are required "... for the purpose of providing suitable access and services to all parcels in the subdivision."[66] These restrictions have created difficulties in providing adequate roads for sectors. Where it is necessary to provide an expressway or

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[65] Subdivision and Transfer Regulation, Section 19, Subsection 2, O.C. 215-67.

[66] Province of Alberta, Planning Act, Revised Statutes of Alberta, 1970, Chapter 276, Section 2 5(1)(a).

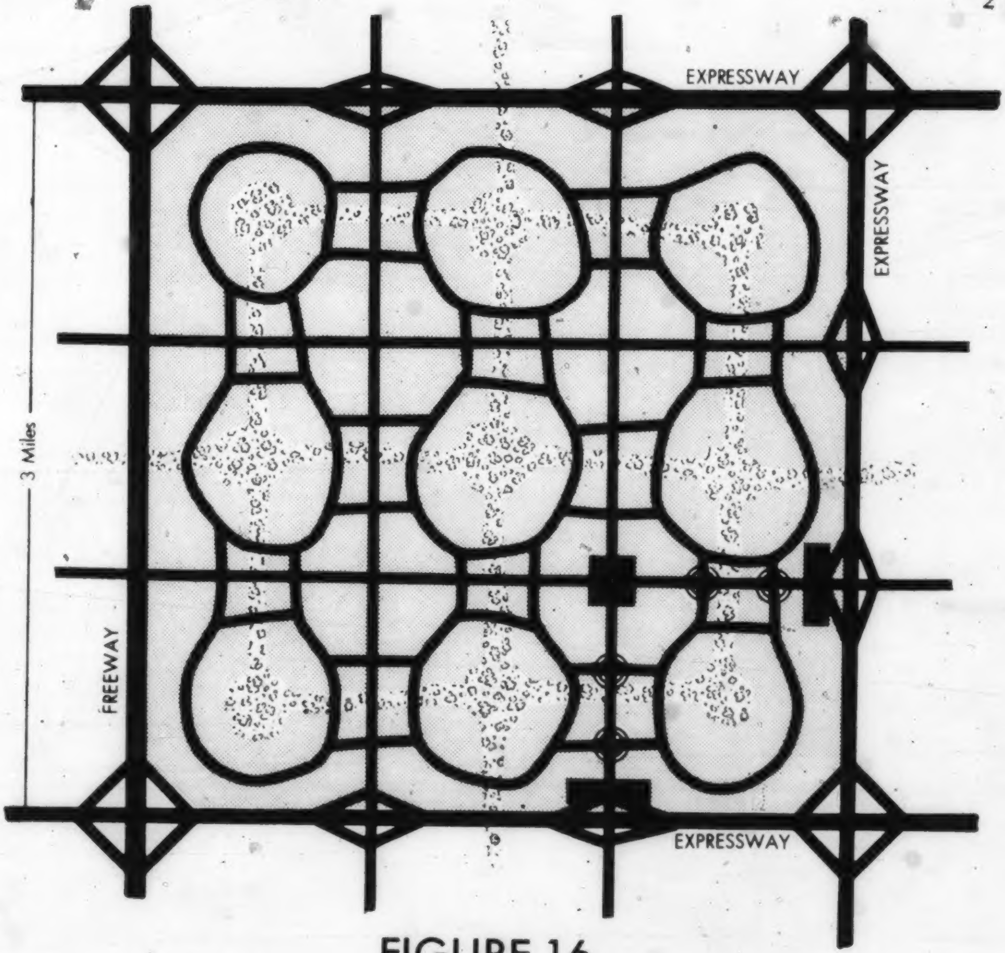
EXPRESSWAY
EXPRESSWAY
3 Miles
FREEWAY
EXPRESSWAY

FIGURE 16

HYPOTHETICAL SECTOR LAYOUT

▨ LOCAL OPEN SPACE SYSTEMS

☐ HOUSING AREAS

— COLLECTOR ROAD

POSSIBLE ALTERNATIVE LOCATIONS FOR

▬ REGIONAL SHOPPING CENTRES

■ SECTOR SHOPPING CENTRES

◎ NEIGHBOURHOOD SHOPPING CENTRES

Source City of Calgary The Calgary Plan 1973 p. 3.10

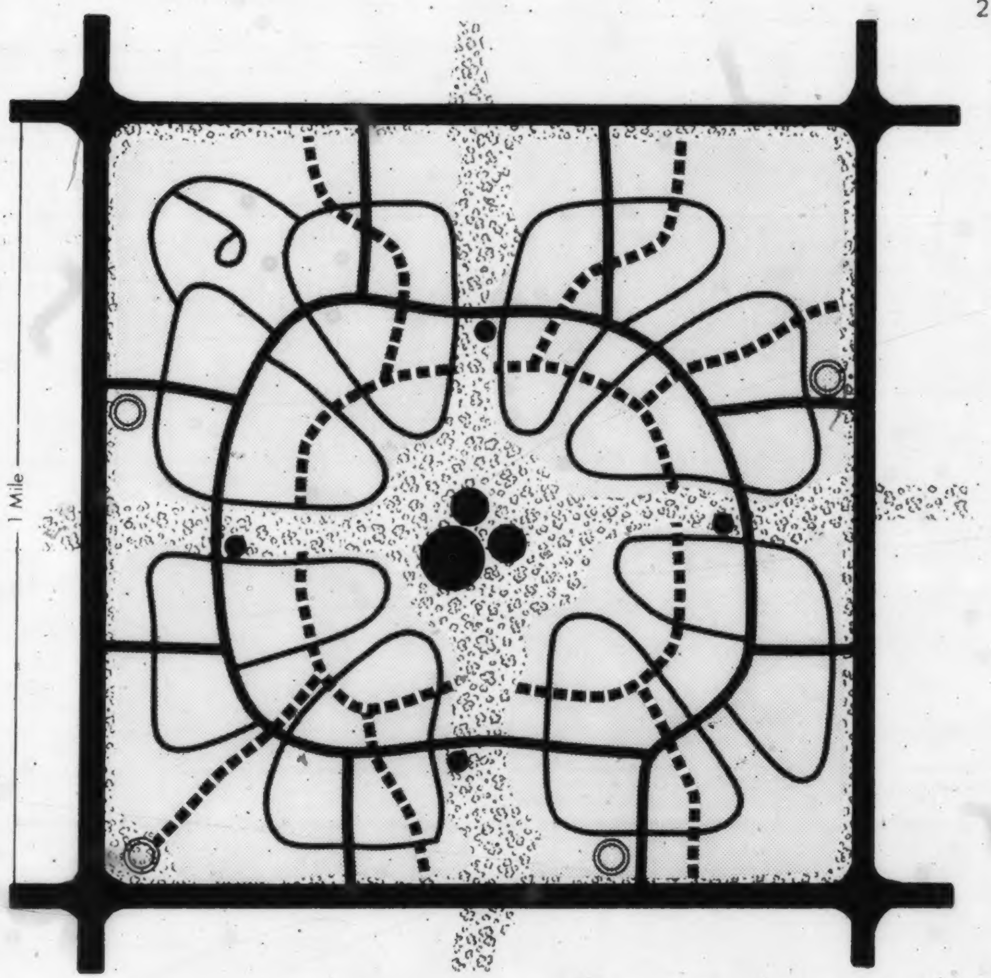

FIGURE 17

HYPOTHETICAL NEIGHBOURHOOD LAYOUT

▨ LOCAL OPEN SPACE SYSTEMS

☐ HOUSING AREAS

▪▪▪ WALKWAY

━ COLLECTOR ROAD

— LOCAL ACCESS ROAD

● ● • SENIOR JUNIOR AND ELEMENTARY SCHOOLS

◎ NEIGHBOURHOOD SHOPPING CENTRES

Source: City of Calgary, The Calgary Plan, 1973, p. 3.10

freeway rather than a major street, the additional right-of-way is not legally the responsibility of the developer, irrespective of whether or not the 30 per cent dedication limit has been reached, because this additional right-of-way would serve the purpose of moving through traffic, and is not necessary for providing access to the particular subdivision.[67] In practice, most of the time, freeway rights-of-way are obtained through density transfers or they are bought and are not considered as part of the 30 per cent dedication. Resorting to the use of density transfer points out a limitation in existing subdivision regulations.

The Collector

Even though the road classification system has become more structured and better defined, one category, the collector, continues to present problems. This is primarily because collectors have conflicting functions: to provide convenient access to the major street network, to provide convenient access to key elements of the community such as the shopping centre or the school, and to serve as a framework for subdivision.[68] Most important of all, collectors must be designed so as not to encourage the penetration of through traffic into strictly residential areas. In the past, though, several collectors like Northmount Drive, have functioned as through routes because they extended through several neighbourhoods. The heavy traffic and excessive speeds which occur along these routes are often subject to complaints by nearby residents.[69]

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[67] Minutes, Calgary Planning Commission, March 29, 1972.

[68] *Burnsmead Design Brief*, August, 1971, approved by City Council, October 4, 1971, p. 11.

To improve the planning of collectors, in 1972 the Planning Commission approved the use of traffic drainage areas as a guide to developers.[70] Under this policy, two residential collector categories were established, the 40 foot street and the 60 foot right-of-way category and the 40 foot street and the 72 foot right-of-way conbination. The category to be used is determined by the number of housing units to be served, which is based on the following classification.[71]

Residential Street	100 to 120 dwelling units
40/60 Collector	121 to 375 dwelling units
40/72 Collector	376 to 600 dwelling units
Major Street	over 600 units.

By specifying the drawing area of each street, more economical designs based on need are possible. As a further guide, the Planning Commission indicated that collectors should not extend from subdivision to subdivision but should be limited to the length required by the particular drainage area. Furthermore, 600 dwelling units was suggested as the maximum drainage area.

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[69] Minutes, Calgary Planning Commission, February 2, 1972.
[70] *Ibid*.
[71] *Ibid*.

Public Transportation

In the transportation section of the 1963 General Plan, emphasis was placed on providing an efficient roadway network to accommodate the private automobile. Transit travel was not referred to other than to mention that studies were in progres.[72] By contrast, in the 1970 Calgary Plan, rapid transit and surface transit systems were recognized as important needs.[73] The increased concern for public transportation may have been aroused by a 1967 consultants' study, Transit for Calgary's Future.[74] In the report, the authors stressed that, to ensure an efficient land development pattern and to avoid congestion, public transportation must play an ever-increasing role within the total transportation pattern.[75] When reviewing the existing transportation system, the consultants pointed out that 90 per cent of the population of the city lived within five minutes walking distance or one-quarter of a mile of a transit route.[76] The location of transit routes in new residential areas is based on this standard which is assumed to be the maximum distance most North Americans are willing to walk to reach a transit route. Occasionally, plans do not meet this standard. When reviewing one outline plan, for example, the transit system representative noted that part of the subdivision was outside the one-quarter mile limit and was therefore "essentially without bus service."[77]

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[72] City of Calgary, General Plan, 1963, p. 82.

[73] City of Calgary, The Calgary Plan, 1970, p. 2.1.

[74] Simpson and Curtin, Transit for Calgary's Future, Philadelphia, Pa., December, 1967.

[75] Ibid., p. 5.

Pedestrian Routes

A further change which occurred during the planning period was the incorporation into new residential designs of safe, segregated pedestrian routes. The main concern was child safety. To provide a safe, pleasant, and quiet residential atmosphere, encouragement was given to residential designs which used culs-de-sac and minor looped streets, provided for off street parking, and incorporated separate pedestrian walkway systems.[78] Each design brief includes a pedestrian system as part of the sector plan. The Burnsmead sector, for example, contains a pedestrian system which has several objectives. To prevent pedestrian-vehicular conflicts, pedestrian corridors are provided within the sector connecting the open space areas along the Bow River with sector facilities such as schools and shopping centres.[79] To further provide for the safety and convenience of the pedestrian, vertically separated crossings are suggested in the design brief.[80] More concern for the needs of the pedestrian is a positive step towards providing a safer and more enjoyable residential environment.

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[76] Ibid., p. 16.
[77] Minutes, Calgary Planning Commission, November 3, 1971
[78] City of Calgary, The Calgary Plan, 1973, p. 310.

Residential Appearance

A final noteworthy change in street planning during the period was a greater emphasis on improving the appearance of residential areas. In 1965, for example, as a condition of approval for one subdivision, the Planning Commission required the developer to provide a 30 foot buffer between a major thoroughfare and a lane. No overhead utility services were permitted along the lane, and within the buffer three rows of trees were required to act as a screen.[81]

A further step was taken in 1967 when the Planning Commission adopted a new policy on residential frontages along major throughfares. At the time, due to congestion created by on-street parking, the Planning Commission was increasingly being requested to eliminate frontages on major thoroughfares.[82] The Commission realized though, that if frontages on thoroughfares were eliminated, other problems could occur. For example, when lots backed onto a lane which was parallel to a major thoroughfare, an unattractive view of garbage cans, fences, garages, and carports was revealed (Plate 16). On the other hand, if houses faced a service road running parallel to a thoroughfare, the service roads served lots on only one side and were therefore uneconomical from the developer's point of view.[83] After consideration, the Planning Commission adopted a policy of no frontage on major thoroughfares. Houses were to face away from the thoroughfare and buffers taken from the 40 per cent compulsory dedication would be provided between the back lanes and the major thoroughfare.[84]

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[79] Burnsmead Design Brief, p. 12.
[80] Ibid.
[81] Minutes, Calgary Planning Commission, March 24, 1965.

PARKS, RECREATION FACILITIES, AND COMMUNITY RESERVE USES

Attitudes towards the provision of park areas in Calgary have taken an interesting and sometimes unusual

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[82] Ibid., October 18, 1967.
[83] Memcrandum from M.V. Facey to Calgary Planning Commissicn, October 23, 1967.
[84] Minutes, Calgary Planning Commission, October 25, 1967.

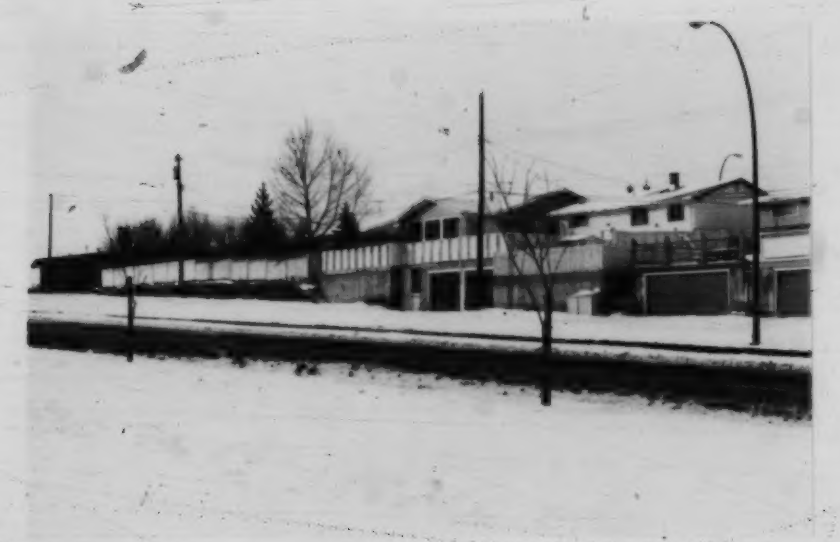

Plate 16

Rear View of Housing From Southland Drive course during the years covered by this study. During the 1920s and 1930s when little growth occurred and the city remained relatively small, the provision of park space was not emphasized. Complaints about inadequate park space, though quickly surfaced after World War II when the present period of rapid growth began. The 1953 Subdivision Regulations requiring a compulsory 10 per cent reserve dedication to be used for parks and schools eased complaints about the lack of parks in new residential areas, although complaints were voiced that 10 per cent was not enough. Despite this difficulty, it is apparent that the 10 per cent compulsory dedication created feelings of confidence that an adequate amount of park space was being provided in new residential areas. This attitude is reflected in the 1963 General Plan where it was pointed out that the provision of neighbourhood parks presented "no insurmountable difficulty" as the reserve dedication was adequate to obtain enough land for school sites and playgrounds.[85]

By the late 1960s, the uses to which community reserve could be put were more carefully specified, the chief objective being the design of subdivisions containing community reserve areas which could be used as much as possible by the local community. As in the period before compulsory community reserve dedications were in effect, it is again considered necessary to emphasize the importance of park and recreation areas. In the 1970 and 1973 Calgary Plans, recreation is described as vital to society at all stages of life.[86]

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[85] General Plan, 1963, p. 72.

Park Standards

The renewed emphasis on the adequate provision of parks and recreation spaces appears to have been due to a greater need for regional and city-wide parks and recreation facilities. These changing needs are reflected in new parks standards. One of the objectives stated in the parks section of the 1963 General Plan was to compare the proportion of open space within the city with that of other North American cities and with standards which have been recognized by land use authorities.[87] At the time, it was discovered that Calgary's 11.6 acres of open space per 1000 population compared favorably with the recognized standard of 10 acres for each 1000 persons.[88] By 1970, though, the accepted minimum standard had changed to 15.25 acres of developable land per 1000 persons, a standard which Calgary still closely approached.[89] This figure was based on the National Recreation Association standard of 10 acres per 1,000 persons, plus 2 acres per 1000 for municipal golf courses and 3.25 acres for public and separate elementary and junior high schools all under joint use.[90] In the 1973 Calgary Plan, the accepted minimum Standard had again changed, this time to 16.25 acres per 1000 persons.[91]

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[86] The Calgary Plan, 1970, and The Calgary Plan, 1973.
[87] General Plan, 1963, p. 71.
[88] Ibid., p. 72.

The demand for more park space was, in large measure, due to the adoption of an integrated city-wide parks plan combined with the use of larger, sector-size planning units. In the Calgary Plan, the adoption of a city-wide "system" of parks is pointed out in several places.[92] Basically, the objective of the plan is to create a series of linked park and recreation facilities using the river and creek valleys as greenways penetrating throughout the city. Foot and bicycle paths are planned to follow the greenways and, by so doing provide a comprehensive pedestrian and bicycle network. Each sector is then planned to be connected to the valleys by open space links. In the Varsity Acres sector, for example, a draw was retained as open space to connect the sector with the Bow River Valley.[93] The ultimate goal according to The Calgary Plan, is the establishment of pedestrian networks linking homes to children's playgrounds, playing fields, schools, shopping centres and, eventually, to the city-wide open space system.[94]

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[89] The Calgary Plan, 1970, p. 4.3.
[90] Ibid.
[91] The Calgary Plan 1973, p. 5.3.
[92] Ibid., 1970, p. 4.1 and p. 4.3.

To achieve this objective, more recreation land is required and, when viewing the results so far obtained from the plan, the extra amount appears justified. The creation of a strictly pedestrian and bicycle park system in the northern section of the city, for example, has been very successful. The park is now more easily accessible and used more than previously. The establishment of a linked park system also provides a guarantee that the land within the system will remain in recreational use. As land prices rise, some recreational uses such as private golf courses become uneconomical and steps are sometimes taken to redevelop them. But because of the interlocking nature of a linked open space network, each section is more likely to remain as a recreational use.

The use of sector planning has also resulted in a higher demand for open space. The 10 per cent community reserve dedication provides enough land for elementay and junior high schools, community centres, and local parks, but not enough for regional needs. In the previous planning period, the Technical Planning Board had established a policy of not allowing high schools to be counted as part of the 10 per cent reserve. In the 1970 Calgary Plan, it was recommended that athletic parks containing playing fields, indoor swimming pools, and ice arenas be located in association with senior high schools.[95] The recommended ratio was one major athletic park for every 40,000 to 50,000 persons. Following this policy, in approving the Glenmore Design Brief, City Council agreed to purchase an additional 23 acres of land to form a 25 acre recreation site containing, among other things, an athletic park, a swimming pool, an ice arena, a library, a health clinic, and a social service centre.[96]

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[93] Varsity Acres Design Brief, March, 1974, approved by City Council June 27, 1974.

[94] The Calgary Plan, 1973, p. 4.9.

Payment-in-Lieu

As a result of the many demands made on community reserve land, it has become more important to design plans which make the most efficient use of the dedications. In pursuit of this objective, several policies evolved during the planning period.

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[95] The Calgary Plan, 1970, p. 4.7.

[96] Glenmore Design Brief, February, 1973, approved by City Council May 28, 1973, p.15.

The first major change originated with revisions to the Subdivision and Transfer Regulations and the Planning Act in 1963. Section 25 of the Planning Act allowed reserves to be taken from all subdivisions, but they could also be deferred subject to a covenant or agreement, or money could be taken in their stead.[97] Payment-in-lieu became an important tool for subdivision planning, particularly in areas where several ownerships existed. For example, money may have had to be taken from one owner to purchase land from another to get a school site of the correct size or the correct location. In other situations, such as industrial subdivisions, money was accepted where reserves were not required.

The amount of payment-in-lieu has become a point of dispute. According to the 1963 Planning Act, it was to be based on the value of the land immediately before subdivision.[98] The problem with this method was that land prices rose immediately after subdivision so the amount collected from unsubdivided land was never enough to pay for the subdivided parcels. To rectify the situation, in 1964 a new provincial ruling allowed the land valuation to be determined as a multiple of the 1959 land assessment.[99] The amount received through this formula was also found to be inadequate.[100] A further change occurred in 1967 when the provincial government ruled that the value of reserve land must be equivalent to 10 per cent of the total value of the land to be subdivided.[101]

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[97] Province of Alberta, Planning Act, Revised Statutes of Alberta 1963, Chapter 45, Section 25.

[98] Ibid.

More complaints led to further changes, and in 1971 the Planning Act was again amended to require the amount of money in lieu to be based on the value of land immediately after rather than before subdivision.[102] According to the Calgary Planning Department, this change still made no practical difference since the value of land immediately after subdivision did not include the costs of development and servicing.[103]

Although the amount of payment-in-lieu has remained a point of contention, the money collected was placed in a community reserve fund to be used solely for the purchase of additional reserve lands. Since most of the money was contributed on a city-wide basis, the Parks Department established a policy allowing the fund to accumulate towards the purchase of regional park facilities.[104] This policy then avoids the danger of using most of the fund for local benefit only. Reserve money, though, can be used in subdivisions with insufficient reserves where cash-in-lieu was received.

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[99] Minutes, Calgary Planning Commission, May 8, 1964.

[100] Ibid., October 27, 1965.

[101] Subdivision and Transfer Regulations O.C. 1019-67.

[102] Province of Alberta, Planning Act, 1970, Section 26, Subsection 2.

[103] Minutes, Calgary Planning Commission, October 10, 1972.

Buffers

In some subdivisions developed before 1963, buffer strips parallel to major thoroughfares were allowed to be counted as part of the 10 per cent community reserve dedication. In Section 26 of the 1963 Planning Act, however, uses for reserves were limited to schools, parks, and recreation areas.[105] Despite this restriction, the Planning Commission ruled that buffer strips could be considered as reserve if schools, parks, and recreation areas were provided for.[106] By 1967, though, the Commission had shifted to a policy of allowing buffers only if they were not treated as part of the 10 per cent community reserve.[107] This policy was reconfirmed in 1968 but included the provision that a buffer between an industrial and a residential area was a legitimate communtiy reserve use.[108]

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[104] Ibid., June 19, 1970.

[105] Planning Act, 1963, Section 26.

[106] Minutes, Calgary Planning Commission, December 4, 1963.

[107] Ibid., January 25, 1967.

The buffer situation changed again in 1967 when C.M.H.C. began to require the provision of additional setbacks up to 90 feet in subdivisions flanked by major roads.[109] Since the Planning Commission would not include these buffers as part of the community reserve, and since the 30 per cent roadway dedication was usually insufficient to absorb the additional buffers, the Planning Commission, as policy, required the developers to dedicate the buffers even if the legal maximum of 40 per cent dedication was exceeded.[110]

Ornamental Parks and Tot Lots

Since they usually did not serve an entire neighbourhood, ornamental parks were another questionable use of community reserve. Although they were difficult to install and maintain, and although they served no active recreation function, the Commission continued to allow them to be counted as part of the 10 per cent community reserve. In 1965, as a mark of increasing stringency, the Commission ruled that, if reserves should become a matter of contention, ornamental parks would not be given credit.[111] Then, in 1969, the Commission decided that ornamental parks were not legitimate community reserve uses since their only useful purpose was to enhance the value of the immediately surrounding houses.[112] Several developers, though, continued to design subdivisions containing ornamental parks, feeling that they were assets to the neighbourhood.[113]

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[108] Ibid., August 21, 1968.
[109] Ibid., August 16, 1967.
[110] Ibid., October 19, 1972.

Although ornamental parks ceased to be counted as part of the community reserve, small open spaces were if they were developed as tot lots or playgrounds. One tot lot of about 20,000 square feet was provided in every quarter section.[114] The inclusion of small recreation areas designed for young children is a good idea but one lot every quarter section appears inadequate. To cater to the very young, tot lots must be located close to home. It is therefore unlikely that the tot lots provided are utilized by others than those living immediately adjacent to them.

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[111] Ibid., February 10, 1965.
[112] Ibid., April 2, 1969.
[113] Per. com. with R.J. Kimoff, Manager, Kelwood Corporation, October 25, 1973.
[114] Letter from M.H. Rogers to Alderman Eric Musgreave, August 11, 1971.

Reserves for Multiple Family Housing

Under Section 25 of the 1970 Planning Act, reserve dedications are only required when land is subdivided.[115] Subdivision, though, is often not required when large town housing projects or mobile home parks are developed. In these cases, the projects are developed as distinct units on existing parcels of land, without reserve and roadway dedications. In 1968, therefore, the Commission adopted a policy of requiring rezoning applicants to provide in cash 10 per cent of the current market value of the land prior to the developement receiving city approval.[116] In 1970, this policy was extended to projects proposed on land which was already appropriately zoned.[117] The necessity of implementing this policy illustrates how changed planning concepts can cause legislation to become outdated and how outdated legislation can hinder effective planning.

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[115] Planning Act, 1970, Section 25

[116] Minutes, Calgary Planning Commission, September 18, 1968.

[117] Ibid., April 22, 1970.

Community Associations

One idea urged by Perry, and by others before him, was the development of community-school centres where school buildings could be used by the community association out of school hours. To Perry, the neighbourhood school could become a focal point for community interaction, a place where neighbourhood residents could meet one another to socialize and take part in neighbourhood activities.[118] The concept is appealing and, at first glance, does not appear to be too difficult to implement. In Calgary, however, even though neighbourhood unit principles have been used since 1949, community use of neighbourhood schools has not occurred. Several factors have worked against the concept. First, in the rush to provide school facilities for a rapidly expanding population, the buildings were not designed for multi-purpose use. A second factor factor may be school board reluctance to make school buildings available to the community. Maintenance problems can occur and, in addition, some community activities are not favored in schools by many citizens. Nonetheless, one of the recommendations in the 1970 Calgary Plan was the use of school facilities for all types of recreational and cultural activities outside normal school hours.[119]

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[118] Clarence A. Perry, Housing for the Machine Age, Russell Sage Foundation, New York, 1939, p. 50.

Although school buildings have not been used by community associations, land is provided for them from the community reserve. As a result, community centres have been developed throughout the city, though not always with much care.

Organizati~~on of~~ community associations is left to the initiative of local residents who determine the catchment areas; these have usually averaged around 5000 people. Upon application, community centre developments must be approved by the Commissioners' Office and then posted.[120] If no objections are received the Planning Commission usually approves the development providing that exterior materials and parking facilities are acceptable.

To illustrate the problems which have occurred with the development of community association facilities, two examples are discussed, Haysboro and Marlborough. In 1966, the Haysboro Community Association applied to the Planning Commission for approval of a new community hall site, the old one being required by the Separate School Board. Although the proposed site was recommended by the Joint

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[119] *The Calgary Plan*, 1970, p. 4.4.
[120] Minutes, Calgary Planning Commission, June 23, 1965.

Sites Committee and the City Parks Department, the Planning Commission, as a result of many objections from residents of the surrounding area, refused the application.[121] In its refusal, the Commission observed that two community clubs had developed in the neighbourhood and that both were substandard because of shortage of funds. As an alternative, the Commission suggested the amalgamation of the two clubs. In retrospect, these problems could have been avoided if greater control had been exercised initially over the establishment of the community associations.

In 1971, City Council approved the Marlborough Design Brief, a sector plan designed to accommodate a population of 30,000.[122] The entire sector was planned as a unit and it appears as though it was assumed that only one community association would be required. In 1972, though, the residents argued against this and, as an alternative, recommended that the sector be halved to create two distinct community association areas, each with separate names.[123] The Parks Superintendent supported the residents with the opinion that 15,000 was the optimum population for a community association.[124] In addition, he emphasized the need for community associations to have clear-cut boundaries. The Planning Commission was not opposed to the creation of two community associations but it was opposed to a major name change. As a compromise, it approved the name Marlborough for half the sector and Marlborough Park for the other half. Two reasons for this decision were given. First, the design brief did not designate separate community associations and, second, the developer found it easier in his marketing to continue with an established name.

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[121] *Ibid.*, February 23, 1966.

[122] *Marlborough Design Brief*, September, 1971.

[123] Minutes, Calgary Planning Commission, March 15, 1972.

[124] *Ibid.*

From these examples, it is evident that the principles used to guide the establishment of community associations need to be clarified. Care must be taken to ensure that the population of an association is large enough to assure its viability. On the other hand, the population cannot be too large or administrative problems will occur. To provide a sense of identity, boundaries need to be clearly defined. Furthermore, it seems necessary that the establishment of community associations be considered in the sector planning process.

Schools

Approximately 80 per cent of the community reserve is used for school facilities. Over the years, school standards have evolved to the extent where detailed locational and size criteria are now followed. These are outlined in Table 1. A central site continues to be preferred for elementary schools, with a maximum walking distance of one-half to three-quarters of a mile and a location such that children are not required to cross major streets.[126] Junior high schools, because of their larger catchment areas, are required to be well served by transit.[127] The role of senior high schools, though, has changed significantly. In contrast to neighbourhood unit principles, the community focal point is no longer the elementary school, but the high school. To develop a strong community focus, other major facilities such as swimming pools and ice arenas are or will be integrated into high school complexes.

Although the introduction of the compulsory reserve dedication was an enormous aid in ensuring the adequate provision of school facilities, school planning continues to present serious problems. As a result of the population changes which occur with changes in the life cycle, the city is faced with providing costly permanent buildings with a relatively short life usefulness. The Planning Advisory Commission recognized the problem in 1961. When reviewing population trends, it was pointed out that the peak

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[126] The Calgary Plan, 1973, p. 64.
[127] For example, see Minutes, Calgary Planning Commission, January 20, 1965.

TABLE 1: SCHOOL STANDARDS CITY OF CALGARY 1973

School Types	Elementary I-VI	Junior High VII-IX	Senior High X-XII
Public Schools			
1. Optimum Location	Centre of catchment area	On transit route	On transit route
2. Maximum Reasonable walking distance	1/2 - 3/4 mile	1 - 11/2 mile	
3. Serves an area containing population of approximately	3,000-4,000	7,000-8,000	30,000
4. Range of Enrollment	540-720	700-850	1,200-1,500
5. Minimum Site Size	9 acres	12 acres	20 acres
Separate Schools			
1. Optimum Location	On transit route	On transit route	On transit route
2. Optimum Service Area	1 sq. Mile	3 sq. Miles	12 sq. Miles
3. Range of Enrollment	240-360	360-720	1,000-1,500
4. Site Size	6 acres	9-12 acres	17-20 acres

Source: City of Calgary, The Calgary Plan, 1973, p. 64.

population of elementary school age occurred six or seven years after completion of the subdivision.[128] Moreover, the peak figure reached 175 pupils per 1000 persons which was far in excess of the City average of 100 pupils per 1000, or the 110 pupils per 1000 standard adopted for new areas. Furthermore, once the peak is passed, population tends to decline to a level below the city-wide average. Therefore, elementary schools would be inadequate during the period of maximum population, but after that time would not be fully used and may even be discontinued.[129]

This problem was brought to a head in May 1972 when the Minister of Education announced that, to check the rising costs of education, no funds would be made available for new school construction.[130] This decision was based primarily on the fact that new buildings were being constructed in the new suburbs where a high demand occurred while vacancies were appearing in established schools. Revising the decision, in December 1972, the provincial government announced a new policy of limited funding. This was that funds for new school construction would not likely be available if all existing classrooms were not used to 90 per cent capacity.[131] Since the number of spare classrooms in the Calgary Public School system in June 1972 was 270, further school construction was effectively stopped.[132] A Task Force on School Building Needs to 1980 was formed in November 1972, partly to give the public a means of making their views known.

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[128] Minutes, Planning Advisory Commission, June 1, 1961.
[129] _Ibid_.
[130] Minutes, Calgary Planning Commission, May 17, 1972.

Of particular interest to this study were the arguments in favor of neighbourhood schools. A strong case was made, for example, for neighbourhood schools as the cohesive element in developing viable and desirable community structures.[133] The physical existence of a neighbourhood school, it was claimed, created a focal point for social, cultural, and recreational activities which, in turn, encouraged community spirit. It was also argued that the neighbourhood school made it easier for the school to develop a close relationship with parents.[134] The family, through the neighbourhood school, could associate more easily with a local community than with a larger community. These suggested advantages emphasize the neighbourhood unit scale of planning, rather than the recent policy of fostering larger scale regional and sector centers to promote community intermixing.

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[131] Task Force on School Building Needs to 1980, School Construction Program Alternatives for Calgary, A Report to the Calgary Public School Board, June, 1973, p. 13.

[132] Ibid., p. 16.

[133] Ibid., p. 24.

[134] Ibid.

Neighbourhood schools were also defended as a means for allowing teachers to develop curricula appropriate to the geographic and social context of the specific neighbourhood which, in turn, would make it easier for students to obtain a sense of community.[135] Among the other advantages mentioned were a greater sense of security for younger students, avoidance of stigmas attached to students bussed from their own neighbourhoods to outside schools, and the greater amount of physical exercise associated with walking rather than riding to school.[136]

When residential areas were planned in Calgary, it is evident that the major concern was always on physical design. For the most part, social objectives were not considered. It appears as though the central reason for the use of the neighbourhood unit and sector concepts in Calgary was not to achieve social objectives but to serve as a convenient framework for land subdivision. Although the social implications of planning were not of central concern, the school construction controversy illustrates the close relationship between social and physical planning. The social advantages of the neighbourhood school are assumed to be present but no studies have been undertaken to determine if this is so. This topic is worthy of further research.

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[135] Ibid., p. 25.
[136] Ibid., p. 26.

COMMERCIAL FACILITIES

Establishing commercial facilities which provide convenience and service, are sound investments, do not restrict traffic movement, and are compatible with adjoining land uses is one of the most difficult planning tasks. There are many examples in Calgary of commercial development causing serious land use and traffic conflicts. In the 1963 General Plan, therefore, much emphasis was placed on commercial planning principles, such as the notion that major roads should be designed to move traffic and not to create commercial frontage.[137] In practice, most of the commercial growth which occurred during the planning period was of the shopping centre type, and, although these centres did not perpetuate the problems associated with commercial ribbons, they did create problems of their own.

Regional Shopping Centres

The establishment of regional centres continued between

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[137] General Plan, 1963, p. 51.

1963 and 1973 but, unexpectedly, several centres were located in close proximity to one another. The development of a grouped pattern at first appears unusual since one would have expected an even-spaced arrangement with each centre dominating its own trade area. To discover the criteria used in deciding upon the locations of regional centres, two of them, Market Mall and Northland Village located within one mile of each other in the northwestern section of the city, were chosen for analysis (Figure 8 and Plate 17).

A regional centre is defined in the Calgary Plan as a centre which provides a variety of shopping goods including general merchandise, apparel and home furnishings and, in addition, a variety of personal and professional services including recreation facilities.[138] The best way to distinguish shopping centre types is by comparing the principal tenants. In the case of regional centres, the chief drawing power is a major department store or stores. Furthermore, a regional centre is generally designed to serve a trade area of 150,000 to 400,000 people and to occupy a site of a least 30 acres.[139]

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[138] The Calgary Plan, 1973, p. 72.

[139] City of Calgary Planning Department Report. Shopping Centres in Calgary, 1968, p. 45.

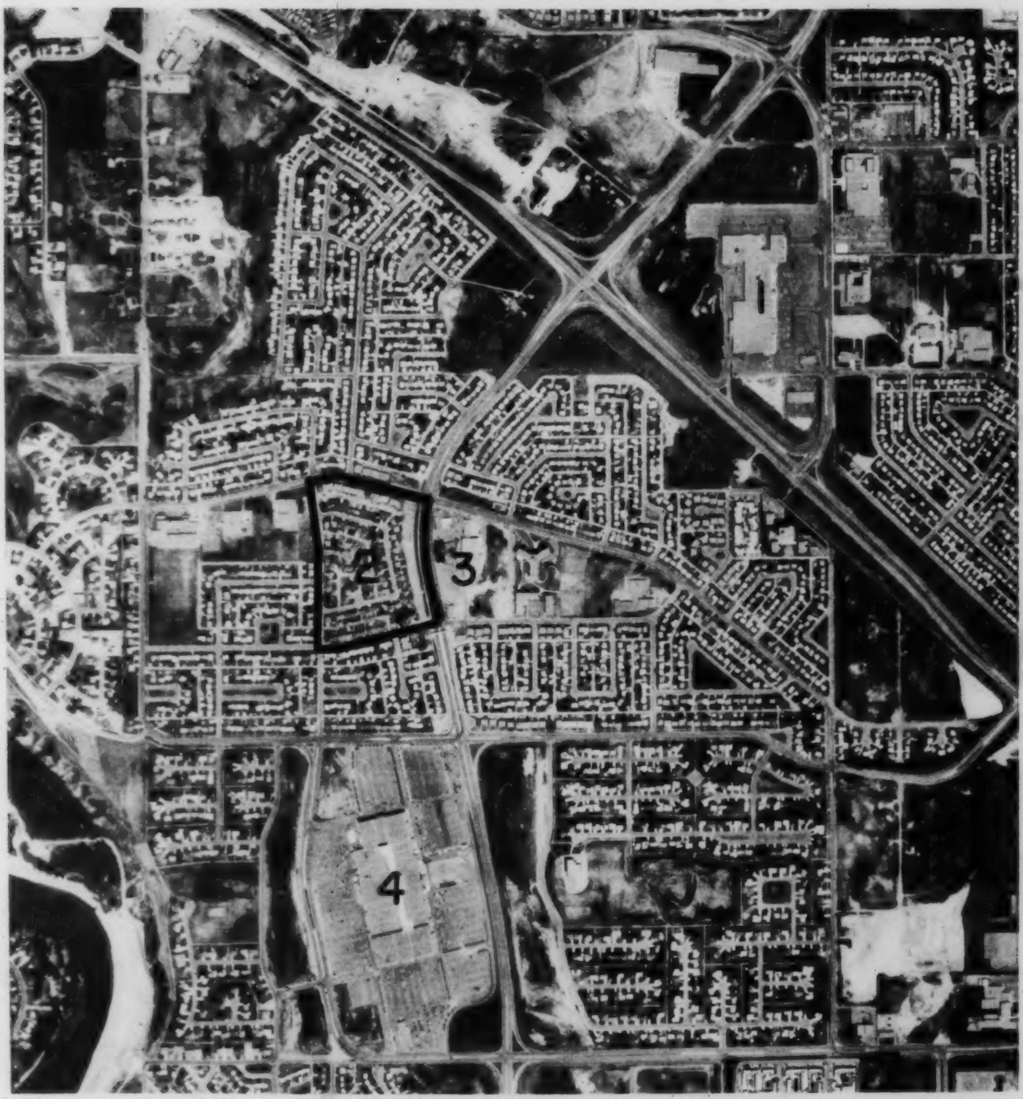

Plate 17

Regional Shopping Centres and High Density Housing Site, Northwestern Calgary

1. Northland Village Regional Shopping Centre
2. 20 Acre High Density Housing Site
3. Varsity Acres Neighbourhood Shopping Centre
4. Market Mall Regional Shopping Centre

0 1000 Feet

Source: Alberta Department of Lands and Forests, Edmonton, 1974

The approvals of Market Mall and Northland Village were complicated and drawn-out over several years. The objective here is not to describe in detail the many changes which occurred to the plans during that time period, or to describe the layout of each of the centres, but to point out the major factors upon which the approvals were based.

Market Mall is located on the Shaganappi Trail in the Varsity Acres sector. It occupies a 45 acre site and, in addition to several dozen small shops, contains two major department stores, Woodwards and the Bay. A development application for the centre was first received by the Planning Commission on June 3, 1966 and final approval for the total project was obtained on November 19, 1969.[140]

Northland Village is located approximately one mile north of Market Mall at the north east corner of Crowchild Trail and the Shaganappi Trail. It occupies a 50 acre site and its principal tenant is a Woolco Department store. An application for it development was first submitted on July 21, 1966; a development permit was issued for the first phase on July 15, 1971.[141]

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[140] Minutes, Calgary Planning Commission June 3, 1966 and Varsity Acres Design Brief, March, 1974.

[141] Minutes, Calgary Planning Commission, July 21, 1966, and December 8, 1971.

Both proposals were examined by the Commission on the basis of four major factors:

1. economic feasibility and timing;
2. location and size;
3. traffic, access, and impact upon adjacent land uses;
4. interest shown by prospective tenants.[142]

Since the Market Mall application was received over six weeks before the Northland Village proposal, it had been processed in considerable detail before consideration was given to Northland Village. At this time the Commission noted that the expected trade area of Market Mall, which was delineated on the basis of a five minute travelling distance, would overlap the trade area of an existing neighbourhood shopping centre located at Varsity Drive and Shaganappi Trail.[143] No further mention was made of this point, though field inspection in 1973 revealed that the supermarket in the centre had been converted to other uses (Plate 18). This presumably reflects the competition of Market Mall. The Commission also pointed out that if Market Mall was permitted, it would be necessary to redesign the street patterns to isolate the residential development in the area from the centre.[144] Furthermore, the applicant was requested to obtain a firm commitment from a prime tenant to

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[142] *Ibid*., September 21, 1966.

[143] *Ibid*., June 29, 1966.

[144] *Ibid*.

Plate 18

Converted Supermarket, Varsity Acres

locate on the site within a specified time.[145]

The submission of another regional centre application, Northland Village, significantly changed the planning approach for the area. The Commission decided that both shopping centre projects should be considered together.[146] In their subsequent review, they reached the conclusion that, for five to ten years, the sector would be capable of supporting only one regional centre.[147] The Northland Village site was recommended for approval to City Council since it was centrally located at the intersection of Highway 1A and a major expressway, the Shaganappi Trail. In addition, 50 to 75 acres was suggested as the most desirable size for a regional shopping centre and, of the two proposals, Northland Village was larger and therefore "... could more readily accommodate two major department stores."[148] Also, at the time, the developer of Market Mall did not have any commitments from major tenants whereas two letters of intent had been submitted for the Northland Village site.[149]

Then, after further negotiation with the developers, the Commission gave approval in principle to the Market Mall project in February, 1967.[150] Even though the site was not as centrally located as to Northland Village site, the Market Mall plan incorporated several admirable design features, the most important being a careful integration of residential and commercial development over a total site of 128 acres.[151]

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[145] Ibid., July 6, 1966.
[146] Ibid., August 17, 1966.
[147] Ibid., September 21, 1966.
[148] Ibid.
[149] Ibid.

To compound the contradictions, the Planning Commission in October 1967 recommended approval of the Northland Village proposal for a regional shopping centre, office buildings, apartments, and a motor hotel on an 88 acre site.[152] The development of both centres was defended in a planning report wherein it was emphasized that approximately 50 per cent of the 1986 city population of 775,000 would reside in the area north of the Bow River. The potential market included "not only the immediate population but to an undetermined extent, the entire area north of the Bow River, the city at large, and the region beyond."[153] Also supporting the decision was the precedent of a similar situation in South Calgary where two regional shopping centres, Chinook and Southridge, developed side by side. In contrast to the Market Mall-Northland Village situation, though, Chinook and Southridge were constructed close enough to each other to enable them to join together to form one centre in 1974.

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[150] *Ibid*., February 15, 1967.

[151] *Varsity Acres Design Brief*, March, 1974.

[152] Minutes, Calgary Planning Commission, October 25, 1967.

[153] *Ibid*.

When the Northland Village application was considered by City Council in December, 1967, the Planning Commission's recommendation was rejected. Since Market Mall had already been approved, a fear that too much commercial development might be allowed in the district appear to have been the major reason. The Provincial Planning Board, though, in February 1968 overruled City Council and approved the shopping centre which eventually began to be constructed in July 1971.[154]

As with the service station developments along Northmount Drive, the most important factor in the Planning Commission's decision was its attitude of non-interference in the free enterprise system. It was argued that, since a large growth in population was expected for the area, competition between major department stores for sites was also to be expected; sites should therefore be provided in anticipation of demand. Explaining its reasoning the Commission stated:

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[154] Ibid., December 8,1971.

> Irrespective of which of the two major shopping centres ....attract [sic.] the first department stores, there will be a demand by other major department stores, sooner or later, for a northwest location. It is not uncommon for a regional centre to develop with two department stores and in a relatively short time, another centre materializes within a mile of the previous centre. This then accommodates major stores which were unable to locate in the other centre. This is the essence of the free enterprise competitive system.[155]

City planning, in this situation, is viewed as a servant of market forces rather than a director.

One further factor considered by the Commission when viewing regional shopping centre applications was the effect that they might have on the economic viability of the central business district. In the downtown master plan, the maintenance and growth of a strong, specialized retail function was stressed.[156] The Commission recognized this policy but cautioned that it was not the intent of the Plan to protect this retail function by prohibiting competition from regional shopping centres. The Commission minutes state: "Doubtless the initial impact of one or more regional centres in the north west will be felt in the Downtown however, in the longer run the Downtown retail function must stand on its own and will survive in competition with regional centres due to the unique advantages it will enjoy and upon its own merits."[157] Again in the spirit of non-interference, the Commission accepted the contradictory and possibly conflicting concepts of decentralized commercial development and a strong retail core in the central business district.

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[155] Ibid., December 6, 1967.

[156] City of Calgary Planning Department, The Future of Downtown Calgary, September, 1966.

The approval of these two regional centres had an effect on the planning of other suburban areas of the city. This is evidenced by an application in another subdivision for a 29 acre shopping centre located in close proximity to an already approved centre. When submitting his application the developer, using the Market Mall and Northland Village developments as examples, felt that the free enterprise system should prevail again.[158] In this case the Commission ruled that the application was premature because no proof was given that the area could support two centres; nor was there any firm commitment from a prime tenant to locate on the site within a specified time.[159] A six acre site was eventually allowed in 1968 but field inspection in 1973 revealed that it was still undeveloped. Further planning restrictions on the free enterprise system may be worthy of consideration in the future.

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[157] Minutes, Calgary Planning Commission, October 25, 1967.
[158] Ibid., May 22, 1968.
[159] Ibid.

Sector and Neighbourhood Shopping Centres

The use of sector planning resulted in the creation of a new shopping centre category, the sector shopping centre. In *The Calgary Plan*, a sector centre was described as smaller than a regional centre with a junior department store as its principal tenant.[160] In addition to convenience items such as food and drugs, a sector centre sells a selection of shopping goods such as clothing, furniture, banking, and professional and recreational services. Sector centres are usually in central sector locations at the junction of two major streets or a major street and an expressway. Eight acres is the minimum size specified in *The Calgary Plan*, but most sector centres are larger at around 15 acres. In the *Burnsmead Design Brief* for example, an 18 acre sector centre was recommended at the intersection of an expressway and a major collector.[161]

Sector and regional centres are both planned to function as focal points. By locating schools, high density residential projects, public facilities (such as libraries, churches, and health clinics) and commercial facilities together, greater community interaction is hoped for. The concept is an appealing one since active community interaction is a big step towards the creation and preservation of a strong, healthy community.

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[160] *The Calgary Plan*, 1970, p. 5.1.
[161] *Burnsmead Design Brief*, August, 1971, p. 1.

Sector plans also include neighbourhood shopping centres and convenience stores designed to cater to a localized market. As a general rule, these centres must be at least three-quarters of a mile away from each other.[162] In the Silver Springs sector, for example, a five acre neighbourhood shopping centre was suggested at the intersection of a major and a collector street approximately one mile away from the sector centre.[163]

The major advantages of sector planning are its large scale and its comprehensive approach. Large scale, though, can be detrimental in some instances, particularly when planning for neighbourhood shopping centres. If an entire sector was developed in a short time, a sector centre would be required immediately. Instead, development usually occurs over many years and the sector centres cannot be justified until a large population is in residence. To provide adequate commercial facilities for the interim period, neighbourhood shopping centres are built for the small but growing population. The danger is allowing the development of too many neighbourhood shopping centres. When and if a sector centre is developed, the economic viability of the smaller centres is brought into jeopardy. Or, if too many neighbourhood centres are allowed, the economic viability of a sector centre may be questioned. A possible solution to this difficulty is to construct a sector centre in sections, adding on as the population grows.

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[162] Ibid., p. 10.
[163] Silver Springs Design Brief, August, 1971.

Local Convenience Stores

Before the use of the neighbourhood unit concept and the development of neighbourhood shopping centres, nearby corner stores provided most of the food and other daily requirements for neighbourhood residents. As a result of the increasing preference of planners for shopping centres, the provision of isolated neighbourhood convenience stores in newer subdivisions is quite rare. The one exception is the grocery store located within a large apartment complex. Small after-hours food stores were also encouraged to locate within neighbourhood shopping centres. As an example, in 1966 the Commission received an application for a small grocery store to be located adjacent to but not on a neighbourhood shopping centre site. The applicant stated that it was his understanding that the main tenant of the shopping centre, a supermarket, would, as a condition of lease, not tolerate any form of competition on the same property.[164] Upon investigation it was learned that the owners of the supermarket had no objection to the introduction of a small grocery store within the shopping centre, provided that it did not exceed a floor area of approximately 1,500 square feet.[165] The Commission, therefore, refused the application observing that "... the provision of a zoned commercial site away from but in the immediate vicinity of the neighbourhood centre is not to be encouraged for, if allowed, it would cause a precedent to be established where by the development potential of all neighbourhood commercial centres would be endangered."[166]

In 1971 a similar application in another neighbourhood was refused for the same reasons. In this case, though, the supermarket owners would not lease premises to competitors no matter how small they were.[167] As a result, the needs of the residents were not being met in their community, and they were forced to travel a considerable distance before reaching an after-hours convenience store. The illustration lends support towards planners investigating shopping centre ownership policies as a step in the planning process.

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[164] Minutes, Calgary Planning Commission, February 9, 1966.

[165] Ibid., February 16, 1966.

[166] Ibid.

[167] Ibid., July 7, 1971.

HOUSING

During the planning period under review, the strong preference for single family detached dwellings was maintained (Plate 19), and the major influence on subdivision design continued to be the Subdivision and Transfer Regulations. As well, the trend which began in the previous planning period towards the development of higher density housing was accelerated. The planning principles and policies used to integrate all housing types became much more detailed, restrictive, and sophisticated. As the planning period advanced, there was increasing concern for compatibility among all land uses in new residential areas.

Multiple Family Housing Location Criteria

A long-standing Calgary planning policy has been the concept of a density gradient, with highest densities at the centre of the city and progressively lower densities towards the outskirts. Any applications for high density developments away from the central area of the city were usually refused.[168]

In the 1963 General Plan, criteria for the location of

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[168] For example, see Minutes, Calgary Planning Commission, September 25, 1963.

Plate 19

Single Family Housing, Northeastern Calgary

Plate 20

Townhouse Development, Southeastern Calgary higher density housing had not been established. At the time, most apartment construction was concentrated in rezoned areas and not on undeveloped land. Rapid apartment growth, though, brought about problems of land allocation and site planning in new areas.

In a 1964 Planning Department report, concern was expressed that the development pattern had varied extensively from the density gradient pattern.[169] The lack of specific locational criteria for apartments and town housing was evident but, despite this fact, the major emphasis of the report was on the size and architecture of apartments and surrounding buildings. It was pointed out, for example, that commercial areas in new neighbourhoods should be architecturally pleasing from all sides so that apartment dwellers could have a good view onto them.[170]

The rapid increase in the amount of higher density housing after 1963 created a number of problems which were not evident in earlier neighbourhoods. These included overloads on school facilities, parking and traffic problems, inadequate open space, poor landscaping, and invasions of privacy due to building height differences. To overcome these recurring problems, planning principles on high density housing were drafted and refined throughout the planning period to act as guides for apartment developments.

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[169] City of Calgary Planning Department Report, Apartment Buildings and the Regulation of Their Development, Report to the Calgary Planning Commission, April, 1964.
[170] Ibid., p. 3.

The key event which sparked a greater interest in formulating apartment locational criteria was a 1965 application for a large scale, high density apartment development in the northwestern section of the city (Plate 17). The application was to rezone a 20 acre parcel from DC (Direct Control) to R-4X, a high density residential category permitting a maximum building height of 150 feet. The developer defended the rezoning application by pointing out the need to satisfy a growing demand for apartment accommodation in the city at the time.[171] Feeling that the neighbourhood was "essentially a suburban area" where apartment developments of this size were not usually considered, the Commission refused the application.[172] The Commission was also influenced by calculations of the potential number of children for the site which indicated that the school system would be overloaded.[173]

Despite the Planning Commission refusal, the applicant requested that his proposal be forwarded to City Council for its consideration. On July 19, 1965, City Council tabled the matter and requested that the application be referred to the commissioners and the Planning Department "to negotiate on the possibilities of securring additional space to make this R-4X possible."[174]

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[171] Minutes, Calgary Planning Commission, March 31, 1965.
[172] *Ibid.*, March 26, 1965.
[173] *Ibid.*

As a result of this request the Planning Department made further studies and discovered that the increases estimated in the number of elementary school children could be accommodated within the existing school system. One disadvantage, though, was that the amount of communal open space would be inadequate. After further consideration, the Planning Commission referred the application back to City Council reiterating its opposition to large-scale, high density rezonings in suburban areas. This time a new reason was advanced:

> It is considered that the setting aside of substantial tracts of raw land for the speculative development of high density apartments will drain the potential of redeveloping the central and other areas of the city.[175]

In the meantime, while waiting for City Council's decision, the developer and the Planning Department agreed to compromise on R-3X zoning rather than R-4X. The Planning

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[174] Ibid., October 20, 1965.
[175] Ibid.

Commission approved this, with the claim that the reduced density would not drain the potential of the older established central areas of the city.[176] The Commission decision was not unanimous, however, and this factor did not go unnoticed by City Council. The Commissioners were therefore requested to prepare a further report on the application, "... wherein they would explain the thinking that supported an R-3X zone of this size in an area which appears more logically R-1."[177] In response to this enquiry, the Planning Department prepared a report entitled, "The Allocation of and Criteria for Multiple Family Densities Within the City."[178]

In this report, the criteria used in choosing the location of apartments were outlined clearly for the first time. The concept of decreasing multiple family densities in proportion to their distance from the CBD was reaffirmed but with some variations. The highest densities were still specified for the central and central peripheral locations, but medium density developments were allowed adjacent to regional shopping centres. The regional centre was described in the report as a focal point or nucleus of a region. This idea reflects Carver's town centre proposal and is also an important sector planning principle.

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[176] Ibid., December 8, 1966.
[177] Ibid., January 5, 1966.
[178] City of Calgary, Planning Department Report, January, 1966.

Multiple family housing located adjacent to other activity centres such as hospitals and the university was also recommended in the report.[179] Furthermore, apartments were to be located within easy walking distance of transit routes. Most important of all, care must be taken to evaluate the impact of high density development on adjacent land uses. To achieve this objective, the importance of outline and sector planning was emphasized because, with these tools, high density housing can be planned in relation to thoroughfares, servicing, schools, and parks.

In 1973, the 20 acre parcel was rezoned from R-3X to R-1 for single family development. Although apartment development never occurred on the site, the application was invaluable in forcing the clarification of planning criteria for high density housing in new residential areas.

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[179] _Ibid_., p. 9.

Site Development Standards

During the planning period, along with improving the locational criteria used for multiple family housing, improvements also occurred to site development standards, the lack of which were noted in the 1970 Calgary Plan.[180] In response to the problem, the Planning Department, in August 1970, formulated the Draft Multi-Residential Standards to guide site development.[181] Based upon principles outlined in The Calgary Plan, the standards have four major requirements: adequate amenity area, privacy, good relationship with surrounding uses, and adequate parking and access.[182]

To illustrate planning of multiple family projects, a 119 unit townhousing development approved in 1971 was chosen as an example. The following factors were considered when designing the first phase of the 13 acre project:

1. 139 per cent parking; i.e. 39 per cent parking in addition to tenant parking;
2. 60 per cent of the site was reserved for amenity areas (courts and grass) and only 20.5 per cent of the site was covered by buildings.
3. Virtually all units have immediate access to a large green area which extends visually through the site.

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[180] Calgary Plan, 1970, p. 3.1.

[181] City of Calgary, Planning Department Report, August, 1970.

[182] Calgary Plan, 1970, p. 3.8.

4. Parking was concealed from public view by planting and fences.
5. The heights of the townhouses match the heights of the surrounding single family houses.[183]

In addition to these considerations, as a condition of approval, the Planning Commission required the applicant to submit a landscape plan before final approval. The restrictions required for this project illustrate greater concerns than previously for the development of a pleasant and safe living environment (Plate 20).

GLENMORE SECTOR

To conclude this chapter, an analysis is presented of the Glenmore area, as an example of the use of the sector planning concept. The various land uses in the sector are described and analyzed, and special note is given to any important changes which occurred to the plan between its first submission in 1961 and the adoption of the Glenmore Design Brief in 1973.

The Glenmore sector was chosen, first, because it was the first sector plan. Second, its boundaries have remained basically unchanged. This was an important consideration since the same planning area could be evaluated through time. Third, in 1973 City Council approved a design brief for the sector, a document which became a useful reference source. With this official recognition, changes can only be made to the plan if they are approved by City Council. This procedure prevents the development of incompatible land uses while supporting the principle of large scale comprehensive planning. Last, a large part of the sector has already been developed which permits first hand observation to aid in evaluation of the plan.

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[183] Minutes, Calgary Planning Commission, June 2, 1971.

Development History

The sector is located in the south western section of the city (Figure 8). It is bounded by Glenmore Park to the north, the 14th Street Expressway to the east, Anderson Road to the south and, on the west, the proposed Sarcee Trail.

Before the first sector plan was proposed, the Technical Planning Board had dealt with a number of acreage development proposals in the area and had approved several in what was later to become a part of the sector. As time went on, though, the Board refused to approve acreage applications feeling that they would prejudice future urban development.[184] These proved to be wise decisions.

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[184] For example, see Minutes, Technical Planning Board, September 18, 1957 and November 27, 1957.

The first sector plan for the area was submitted to the Planning Advisory Commission for its consideration in April, 1961. In the plan, residential development was proposed at a density of 12.5 persons per acre; with an area of 2371 acres, a population of 29,600 was forecast.[185] In a revised plan, a population of 30,000 was estimated over a total area of 2210 acres.[186] Although not officially approved by City Council, this plan was prepared as a supplement to the 1963 General Plan.[187] Table 2 shows the acreage distribution of the various land uses in the plan.

This 1963 plan has served as a basic guide for all subsequent development development in the sector. The first major subdivision, Braeside, was approved in 1962 and was designed to be in conformity with the sector plan.[188] The same has been true of the following subdivisions, Palliser in 1963, Bayview in 1966, and the first phase of Oakridge in 1968. Although, all subdivisions were planned to conform to the sector plan, it is important to point out that each is usually identified as a neighbourhood. The design of these "neighbourhoods", though, was not based as rigidly on

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[185] Minutes, Planning Advisory Commission, April 20, 1961.

[186] Supplement to the 1963 General Plan, Group G, "Sector Plans."

[187] Ibid.

[188] Minutes, Technical Planning Board, February 14, 1962.

TABLE 2: ACREAGE DISTRIBUTION 1963, GLENMORE SECTOR

Land Uses	Area
Community reserve (10 per cent)	221 acres
Shopping centres	24 acres
Convenience shopping	10 acres
Glenmore Family Club	31 acres
16x5 acre developed lots	80 acres
Major roads	65 acres
Roads (other than residential)	16 acres
	447 acres
Total area	2210 acres
Net residential area	1763 acres

Source: Supplement to 1963 *General Plan*, Group G, Sector Plans.

neighbourhood unit principles as those neighbourhoods planned in the period 1954 to 1963.

In 1966, when reviewing the relationship of the sector plan to a park proposed along Fish Creek to the south of the sector, the Calgary Planning Commission officially approved the plan in principle[189] (Figure 18). In 1969, when the Planning Department adopted the policy of preparing published design briefs for every sector, a major revision was undertaken and in July 1970, a preliminary report on the Glenmore sector was drafted.[190] Eventually, in May 1973, City Council approved the Glenmore Design Brief[191] (Figure 19 and Plate 21). The major difference between the 1963 and 1973 plans was that the projected population was increased from 30,000 to 42,000 people, while the area was reduced from 2210 to 2056 acres.[192] The change was largely due to the newly agreed density standard of 22 persons per acre.

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[189] Minutes, Calgary Planning Commission, November 30, 1966.

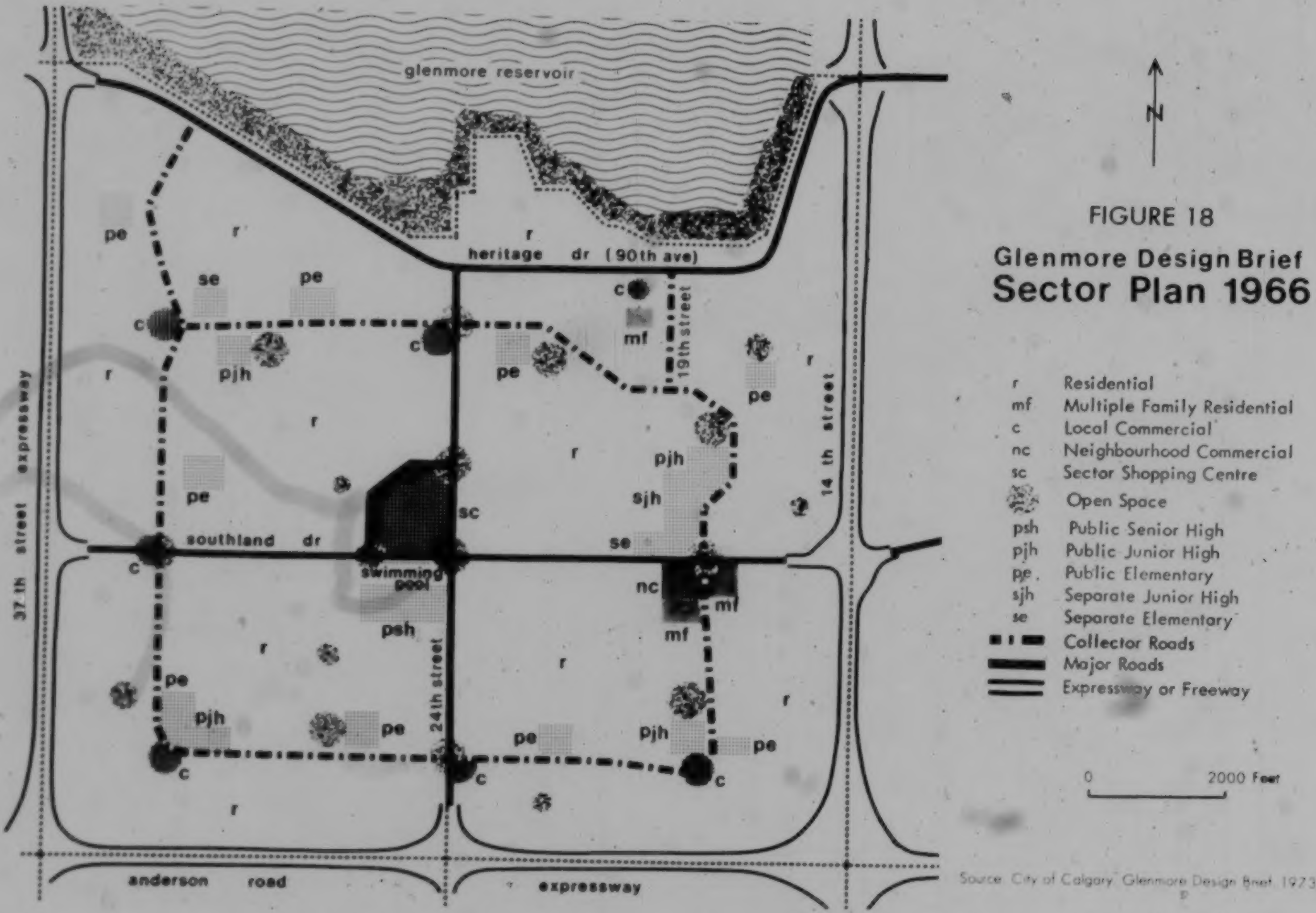
[190] City of Calgary Planning Department, Design Brief of the Glenmore Sector, Preliminary Report, July 10, 1970.

[191] City of Calgary Planning Department, Glenmore Design Brief, February 1973, approved by City Council, May 28, 1973.

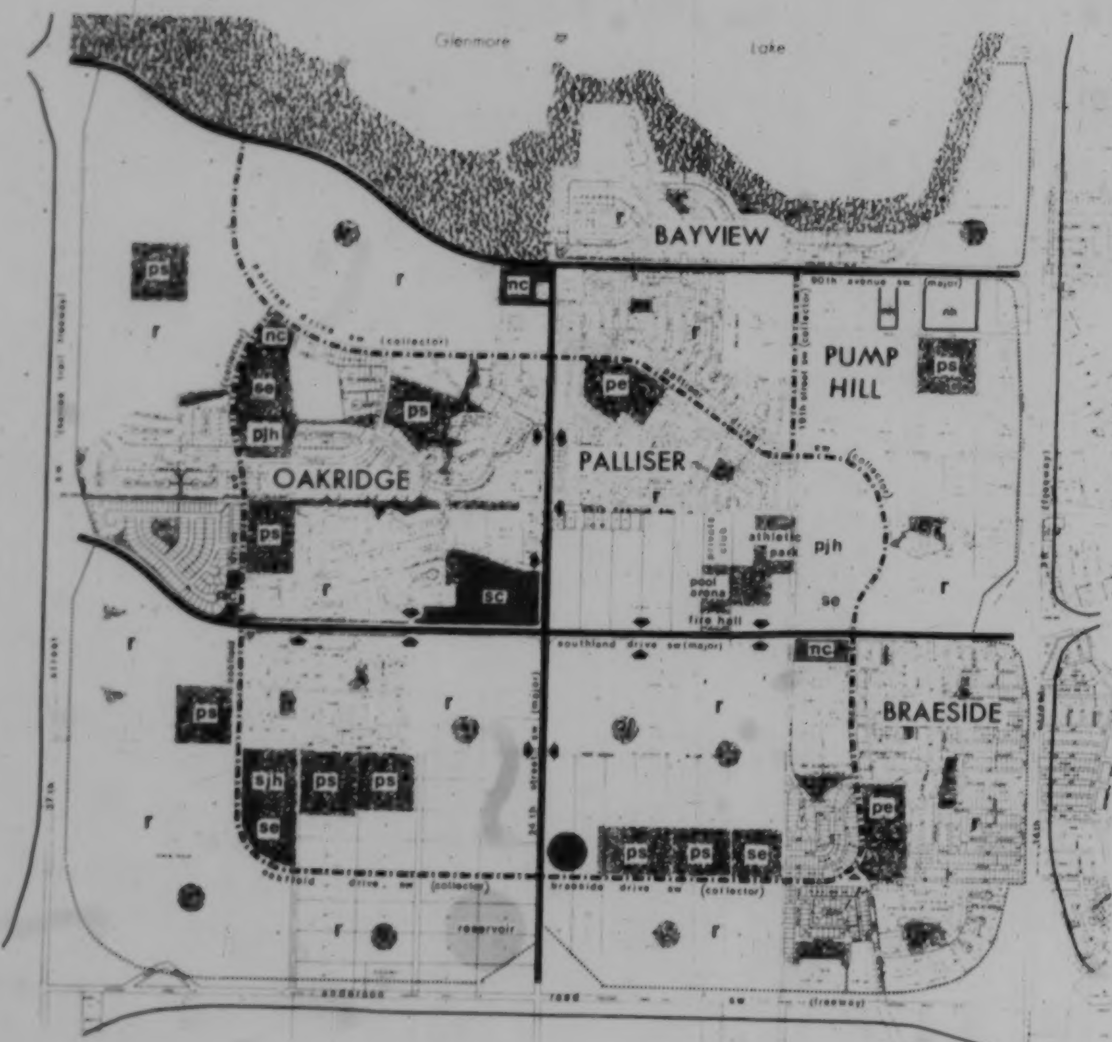
[192] Ibid., p. 10.

FIGURE 18

Glenmore Design Brief
Sector Plan 1966


glenmore reservoir
heritage dr (90th ave)
19th street
14 th street
24th street
37 th street expressway
southland dr
swimming pool
anderson road
expressway
r
mf
c
nc
sc
pe
se
pjh
sjh
psh
N
r Residential
mf Multiple Family Residential
c Local Commercial
nc Neighbourhood Commercial
sc Sector Shopping Centre
Open Space
psh Public Senior High
pjh Public Junior High
pe Public Elementary
sjh Separate Junior High
se Separate Elementary
Collector Roads
Major Roads
Expressway or Freeway
0
2000 Feet

Source: City of Calgary, Glenmore Design Brief 1973, p.2



Glenmore
Lake
BAYVIEW
PUMP HILL
PALLISER
OAKRIDGE
BRAESIDE
90th avenue sw (major)
14th street sw (collector)
palliser drive sw (collector)
southland drive sw (major)
24th street sw (major)
oakfield drive sw (collector)
braeside drive sw (collector)
anderson road sw (freeway)
37th street sw (freeway)
14th street sw (freeway)
reservoir
athletic park
private club
pool arena
fire hall
nc
ps
pe
se
pjh
sjh
sc
nh
r

FIGURE 19

Glenmore Design Brief
Land Use and Circulation System
1973

r - residential
ps - possible future public school

Note: The number type and location of other public schools will be determined by Future School Board policy and educational needs.

pe - public elementary school
se - separate elementary school
pjh - public junior high school
sjh - separate junior high school
nc - neighbourhood shopping centre
sc - sector shopping centre
● - local open space
● - major open space
☰ - freeway
▬ - major street
▬ ▪ - principal collector street
◆ - local collector street connection
nh - nursing home

0 2000 Feet

Source: City of Calgary, Glenmore Design Brief 1973 p.8

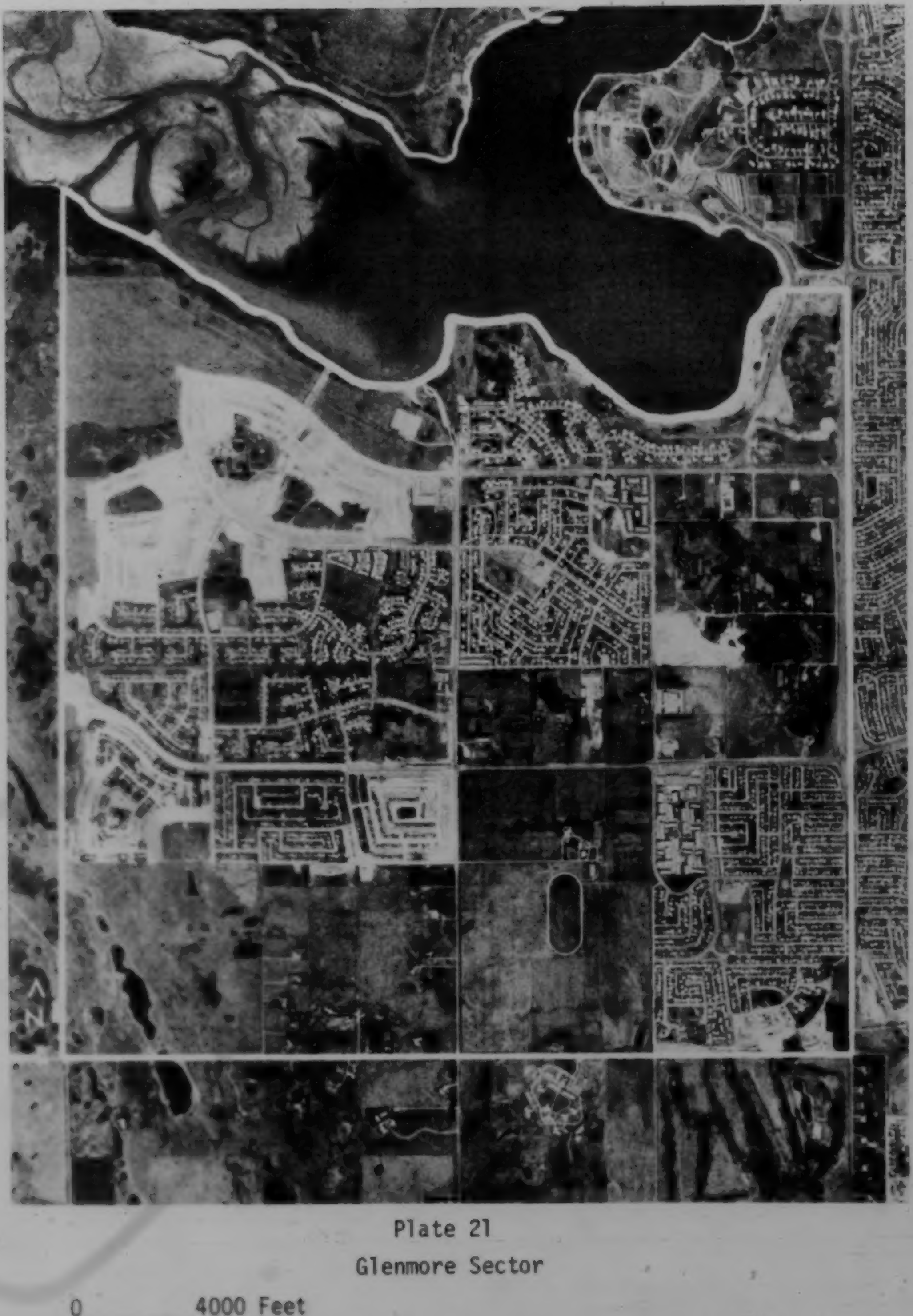


Plate 21

Glenmore Sector

0 4000 Feet

Source: Alberta Department of Lands and Forests, Edmonton, 1974

Physical COnditions

Most of the sector has gently rolling terrain which contributes towards the development of an attractive residential setting. The proximity of Glenmore Lake also adds to this. Except for a fairly extensive growth in the Pump Hill acreage development and in the Bayview subdivision, most of the sector is barren of trees. In all instances, special effort was made to incorporate existing tree growth into the plans.[193]

Circulation System

Major freeways clearly define the boundaries of the sector. Three major streets were also included in the plan, 90th Avenue, Southland Drive, and 24th Street. These streets were designed to move traffic from local collectors to the freeways.[194] The principal collector for the sector is a looped road known variously as Palliser Drive, Braeside Drive, and Oakfield Drive. In a way, the collector is similar to Northmount Drive in that it passes from one neighbourhood to the next but, since it is looped, less through traffic is likely.

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[193] For example, see Minutes, Calgary Planning Commission, June 3, 1966.

[194] *Glenmore Design Brief*, 1973, p. 16.

The circulation system for the sector can be confusing, particularly for those unfamiliar with it. First, the major roads, although providing direct access to community facilities like the sector centre, also split the sector. When the sector is fully developed, a large amount of traffic could use Southland Drive or 90th Avenue to pass through the sector to other destinations. Second, as with earlier neighbourhoods, distinguishing between the various street categories is a problem in Glenmore. The looped collector could be mistaken for a major street thereby inviting unnecessary traffic to penetrate residential areas.

At the same time, the plan includes several design innovations. In the 1963 plan, no mention was made of pedestrian or bicycle paths, but provision was made for these in the 1973 plan. It was recommended, for example, that pedestrian walkways be related to major destinations in the sector. Greater efforts were then made to incorporate into the design a pedestrian system oriented towards the major activity nodes such as Glenmore Park, the sector centre, neighbourhood shopping centres, and schools. A first step was taken in this direction with the approval of the Oakridge subdivision plan in 1968; sidewalks are substituted for backlanes and, eventually, it is expected that the sidewalks will connect to the major activity nodes. As a result of the inclusion of this design innovation, a safer, more pleasant environment appears to have been created for Oakridge and other sector residents.

Community Reserve Functions and Public Facilities

One major reason for the use of the sector concept was to aid in the siting of schools to serve the greatest number of people in the most convenient and economical manner. To achieve this objective, four factors were of most concern: first, avoiding unnecessary duplication of educational facilities; second, choosing school locations that are distant from major roads to ensure that the journey to and from school is safe; third, locating junior high and high schools on major routes where transit service was planned; and fourth, anticipating the student enrollment and deciding on the school size.[195]

Estimating the size of schools was especially difficult since it was realized that the school population varied over time. To establish some guidelines, though, standards were set out in the 1963 plan (Table 3).

In the 1973 plan, student-dwelling unit ratios similar

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[195] Supplement to the General Plan, Group G, Sector Plans, 1963.

TABLE 3: SCHOOL STANDARDS 1963, GLENMORE SECTOR

Net Residential Area 1763 acres
Total Number of Dwelling Units 7052 (4.0 d.u. Per acre)

School Type	No.of Children Per Dwelling Unit	No.of Children	No. Of Rooms	No. Of Schools and Size
Public Elementary	0.6	4231	121	8 schools of 15 rooms
Public Junior High	0.27	1904	54	3 schools of 18 rooms
Public Senior High	0.23	1621		1 school
Separate Elementary	0.12	846	24	3 schools of 8 rooms
Separate Junior High				

1 school per 3 square miles

Source: Supplement to the 1963 General Plan, Group G, Sector Plans to the 1963 plan were used but, as a result of a much larger estimated total sector population, the size of the schools had been increased to accomodate the greater number of students expected. A factor of four persons per dwelling unit was still used to establish the number of dwelling units but, with the total expected population increasing from 30,000 to 42,000 and the number of dwelling units increasing from 7052 to 10,500, the student population had risen from approximately 8600 to 12,860 [196] (Table 4).

The locations chosen for schools appear to have been based on neighbourhood unit principles since proposed or existing public elementary schools are located near the centres of each neighbourhood or subdivision.

Complicating the provision of schools for the sector, though, were restrictions placed on school construction by the provincial government in 1972. It could very well be that, because of this policy, some of the schools presently planned for will never be built. This was indicated in 1972 when the Planning Commission, in considering the Oakridge/Cedarbrae subdivision, clearly pointed out that the Calgary School Board had no plans at the time to build other facilities in the district. Students unable to be

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[196] Glenmore Design Brief, 1973, p. 13.

TABLE 4: SCHOOL STANDARDS 1973, GLENMORE SECTOR

School Type	No. of Students Per Dwelling Unit	Acceptable Size	
Public Elementary	.6	540-720	students per school
Public Junior High	.24	720-840	
Public Senior High	.2	1200-1500	
Separate Elementary	.125	240-360	
Separate Junior High	.06	360-720	

Source: ...City of Calgary Planning Department, Glenmore Design Brief, 1973, pp. 9-13 accommodated within the sector would be bussed out.[197]

As noted earlier, this policy has been an unpopular one, particularly with residents in new subdivisions. Presently, as sectors are developed, areas are being set aside for possible schools but, it has not yet been decided whether they will be built or not. If they are not, the land set aside may never be effectively used; on the other hand, if the eventual number of schools could be decided upon now, alternate locations and more efficient uses for the community reserve dedication could be considered. Possibly, larger centralized sector recreational facilities could be developed or the expansion of the city-wide coninuous park system may be desirable. These issues need to be resolved, especially when planning newer sectors.

In the 1963 plan, a combined senior high school and swimming pool was planned immediately south of the proposed sector shopping centre. In the 1970 preliminary design brief, the high school was still included in the plan and it was emphasized that the combined complex would function as the major activity node and focal point for the sector.[198] By 1973, however, the school board had decided that a high school would not be necessary. Because of this decision, and the inclusion of other sector community facilities, major modifications had to be made to the plan. These changes have raised questions about the basic principles of the sector concept.

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[197] Minutes, Calgary Planning Commission, May 10, 1972.
[198] _Design Brief of the Glenmore Sector, Preliminary Report_, July 10, 1970, p. 5.

One important change in the 1973 design brief was the addition of a large recreational and service facility on Southland Drive at the intersection with 19th Street. Proposed within the 25 acre site are a swimming pool, arena, athletic park, branch library, health clinic, social service centre, and firehall. These facilities are obviously desirable, but their location five blocks away from the sector centre has weakened the activity node-focal point concept. One reason for the separation was a difficulty in acquiring land at a more central location. At all events, the major land uses which draw people together are not located together. In essence, two focal points are proposed for the sector, and, as a result, the most basic planning principle in the whole sector concept has been undermined.

Another problem affecting the unity of the sector is the long development period. Residents cannot yet orient themselves because the major unifying elements of the sector-- the sector centre, recreational facilities, and major roads are not present and are not likely to be developed for some time. Adding to the lack of unity is the fact that each subdivision or neighbourhood is designed and built by separate developers. Distinctive names are chosen for each subdivision to identify its developer but little emphasis is placed upon residence within the sector as a whole and one can speculate that many residents do not know that a sector plan exists. The development of a sense of unity is a social planning goal but in evaluating the plan, even though focal point development and encouragement of community interaction are often mentioned as objectives, it appears that the most important function of sector planning is not to implement social goals but to serve as a convenient tool for large scale subdivision.

Commercial Facilities

In the 1963 plan, it was decided that a population of 30,000 in the sector would provide a sound economic base for two 10 to 12 acre shopping centres.[199] One of these, the sector centre, was proposed at the north west corner of Southland Drive and 24th Street and was described in the plan as the neighbourhood centre and community focus.[200] This feature was retained in the 1973 plan. The other large commercial centre proposed in the 1963 plan was to be located east of the sector centre at the junction of Southland Drive and the loop collector. This was expected to function as a local centre. Subsequently, in 1968, the Planning Commission approved a 4.5 acre commercial development for the location.[201]

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[199] Supplement to the 1963 General Plan, Group G, Sector Plans.

[200] Ibid.

Other locations for local centres were not decided upon in the 1963 plan but were reviewed as part of the later, more detailed subdivision and zoning stage. As a guide, eleven possible locations were indicated on the 1966 sector map: nine of these were located along the loop collector. By the late 1960s, though, Calgary planners were very aware of the fact that too much commercial space was usually set aside in new residential areas. In an effort to resolve the problem, the Planning Department in 1969 produced a report outlining a method for estimating requirements for neighbourhood shopping centres in new areas.[202] The size and number of shopping centres was estimated on the basis of population and average family income. Partly as a result of this report, the number of neighbourhood shopping centres in Glenmore has been reduced to six.

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[201] Minutes, Calgary Planning Commission, May 1, 1968.
[202] Planning Department Research Report, A Method for Estimating Requirements for Neighbourhood Shopping Centres in New Areas, 1969.

The interrelationships of commercial centres within the sector was of particular concern to the commission. In 1968, when reviewing the Oakridge plan, the Commission specified four criteria which needed to be considered when choosing the location of a commercial centre in a sector:

1. the type of thoroughfare and intersection,
2. the number of people to be served by the centre,
3. the size and function of the centre, and
4. equal opportunity for all developers in the sector to build shopping facilities.[203]

In the Oakridge plan it was agreed by the Commission that a 5 acre commercial site should be permitted at the junction of Palliser Drive and 24th Street. Then, taking the above criteria into consideration, the Commission recommended that the site should be changed to the intersection of 90th Avenue and 24th Street, to cater to traffic travelling west on 90th Avenue and not siphon customers away from the proposed sector centre.[204] Also influencing the decision was the fact that the developer of the Palliser subdivision to the east of Oakridge was responsible for the development of the sector centre and had therefore purposely omitted any commercial site within Palliser. It was anticipated that the sector centre would cater to the needs of Palliser residents. If the sector centre had been developed earlier (as of 1973 it was still not built) the local commercial site on 90th Avenue might never have been built. The viability of this centre may be threatened by the sector centre when it is developed. The problem illustrates the complexity of large scale development and the importance of phasing development to serve both immediate and long term needs.

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[203] Minutes, Calgary Planning Commission, July 24, 1968.
[204] Ibid.

HOUSING

The 1963 plan contained no defined policy on density but the 1973 plan was based upon the residential density standard of 22 persons per acre as recommended in the 1970 Calgary Plan. Combining the developed and undeveloped areas, the overall expected density was calculated in 1973 at 20.4 persons per acre.[205] The major objective for the use of a density standard was to estimate the size required for public recreational facilities, schools, and utilities. In 1974, though, concern was expressed that the 22 persons per acre standard was not being reached.[206] The demand for housing had shifted away from higher density forms of housing to single-family housing. As a result, fewer people are expected to live in the sector than proposed in the design brief. Thus, once the sector is fully developed, community facilities may be underused.

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[205] Glenmore Design Brief, 1973, p. 9.

[206] City of Calgary Planning Department Report, Residential Development In Calgary: Inventory and Prospect, 1973.

One notable feature of the Glenmore sector is the variety of housing types, ranging from low density country residential developments to 20 storey apartments (Plates 22 and 23). When visiting the sector, it is evident that special care was taken to minimize conflicts between housing types.

One area which presented special problems was Pump Hill, an acreage development of approximately 108 acres in the north eastern section of the sector. As the south western section of the city filled in, Pump Hill was subject to increasingly strong development pressures. Proposals, though, were usually not based on an overall plan and were refused. For example, in one instance the Planning Commission noted: "It would be a mistake to rush prematurely into approval of a development which may never be coordinated with the remainder of the surrounding lands."[207]

In 1969 the Planning Department gathered all the landowners in Pump Hill together to try to agree on a

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[207] Minutes, Calgary Planning Commission, November 13, 1968.

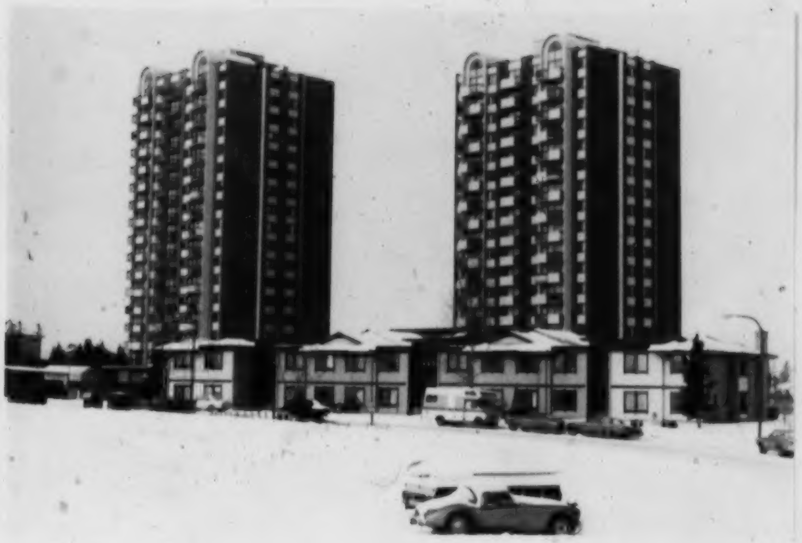

Plate 22

High Density Housing, Glenmore Sector

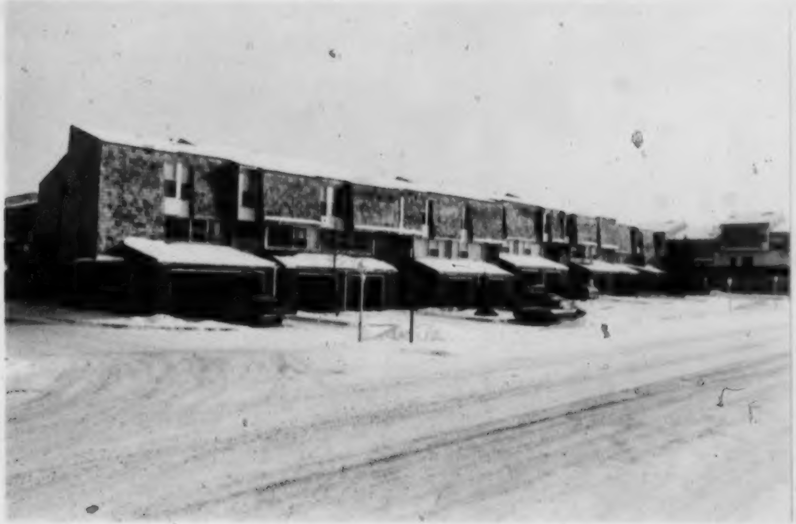

Plate 23

Townhouse Development, Glenmore Sector

comprehensive development plan for the area.[208] No agreement could be reached, however; several attempts were made later to produce a plan but none was acceptable. Residents were determined to preserve the natural environment of the area which contained a heavy growth of native trees and shrubs forming a natural habitat for birds and small animals. Intensive urban development, they argued, would force birds and animals out and destroy the quiet rural atmosphere.[209] A plan which would have the least effect on the environment was the objective.

In 1973, as part of the work on the Glenmore Design Brief, further efforts were made to obtain agreement and in May, a plan was approved by both the residents and the Planning Commission.[210] When approving the plan, the Commission recommended that no subdivision be allowed until an outline plan was approved for the entire area. The Commission, though, was willing to allow a subdivision if it was proven that it would not compromise the balance of the area. Another recommendation was the incorporation of a lot size gradient with smaller lots allowed immediately abutting collector streets with increasingly larger lots required on a graduated basis up to approximately 30,000 square feet. In addition, the Planning Department recommended, among other things, the following considerations: narrower roads, low intensity and short pole ornamental lighting, substantial front driveways, walkways but no sidewalks, green belts around walkways, and building restrictions regulating the setbacks and the sizes of houses.[211]

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[208] Ibid., March 10, 1969.
[209] Ibid., May 16, 1973.
[210] Ibid.

If all or most of these recommendations are implemented, the natural environment will be protected. In addition, haphazard unrelated growth will be avoided thereby enabling the most efficient use of the land to occur within the constraints of the plan.

CONCLUSION

The Glenmore Sector is an illustration of the change from neighbourhood unit size planning units such as Fairview which contained approximately 300 acres, to planning units which can sometimes include over 2000 acres. The use of larger planning units was based on several factors. One important motivating force was a strong desire by planners to avoid potential land use conflicts. By deciding on all of the land uses within a large area before much development had taken place, conflicts at a later date were less likely to occur. As a result, development time is reduced and housing is made available more quickly. Another factor which promoted the use of sector planning was the implementation of the General Plan in 1963. Work on the plan forced the city to look at and plan for growth from a long term point of view. The Glenmore sector plan was one result.

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[211] *Ibid*.

The Glenmore Sector plan does have limitations but it also illustrates the advantages of large scale planning. It appears easier to accommodate changes if a large planning area is used. For example, a larger than originally anticipated population was incorporated into the 1973 plan and the elimination of excessive commercial space was also possible. The elimination of the high school, though, may present some problems since the sector focal point concept may not develop as a result. A better evaluation will be possible when all development is completed.

CHAPTER VII

CONCLUSION

It is widely assumed in the literature of urban planning that there is a direct relationship between the quality of the planning process and the environment that is produced. In other words, a planning process that is well-developed will be much more likely than a random process to "... bring the city alive for its residents as a pleasant, rewarding, and exciting place in which to live."[1] The overall objective of this thesis, therefore, was to analyze the residential land use planning process in Calgary, primarily to determine whether it was at all times logical and well-conceived. The effects of the planning process on the changing form of residential development were also considered, though not in the same depth. The primary concern here was to try to determine how aware the planners were of the consequences of their decisions, and whether there was any element of self-appraisal in the changing courses that they followed.

An analysis of the planning process requires answers to the following questions: Were needs anticipated or did planning occur in reaction to conflict and protest? Were planning goals and objectives clearly perceived before residential development occurred? During the planning process, were alternative courses of action suggested and if they were, were they compared and evaluated to determine the most suitable? Finally, after development had occurred, did re-evaluation take place to discover whether an effective design had been used?

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[1] F. Stuart Chapin Jr., "Foundations of Urban Planning." in Werner Z. Hirsch, (ed.), *Urban Life and Form*, Holt, Rinehart and Winston Inc., New York, 1963, p. 245.

As the study progressed, it became evident that residential designs, particularly the more recent neighbourhood unit and sector concepts, were based on several key planning principles and guided by forceful planning legislation, but it was also clear that the planning process followed in Calgary was not as straightforward as the step-by-step procedure outlined by McLoughlin. In fact, because of the pressure of conflicting objectives and contradictions, it is apparent that, at times, the planning process was not logical. One major reason can be suggested for the conclusion; the planning process was, to a large degree, influenced by the values and perceptions of those most involved, the planners, the members of the city's planning boards, commissions and city councils, Central Mortgage and Housing Corporation, and the developers. Each of these groups, through its values and preferences, has directed the residential planning of the city. In addition, all shared a strong faith in the free enterprise system and often possessed an uncritical readiness to accept new planning fashions from elsewhere.[7] In addition, the planning boards, commissions, and city councils were very conscious of criticism and had a noticeable fear of controversy. As a result of this fear, some plans were approved even though they may not have been in the public interest.

The aim of this chapter is to elaborate on these conclusions. It begins with a discussion on whether or not planners took the first step in the planning process, to scan the environment to anticipate needs. Here, two planning principles which have probably had the most influence, not only in Calgary, but in many other places are pointed out. From this introduction, the chapter moves on to the second step in the planning process: were goals and objectives defined? This section points out the importance that planners' values and preferences have had on the planning process. After this step, consideration is given to whether or not alternative courses of action were considered in the planning process. The chapter then concludes by reviewing the last step in the planning process, re-evaluation.

ANTICIPATING NEEDS

The first step in the planning process is to scan the environment to determine whether changes are required. With this step, it is assumed that planners will scan in order to anticipate needs and then plan for them. The use of two key planning principles, long term and unit planning, indicates that this step did occur to some extent in Calgary, but it is also evident that planning was often a reaction to complaints or independent of any stimulus from within the Calgary environment.

The 1914 Mawson plan reveals, that some desire for planning for the long term was present at an early date; however, it was not until modern town planning was established in the late 1940s that the city became more committed to a long term approach to the regulation of growth. At that time, work on the master plan unexpectedly revealed a large future population increase which, in turn, led to an estimate of future land needs. With these calculations, it was discovered that, to accommodate the population growth predicted, an area much larger than the size of the city at the time would be required. This revelation led to a large scale approach to growth. In other words, in order to anticipate [illegible]ds, it was thought best to look at the city and the surrounding area together. Because of this planning approach, a regional commission was established to ensure that enough land would be available for intensive urban development over a long period. The introduction of a regional approach had two other effects. First, as a guarantee that enough land would be available, large annexations took place and second, developers, realizing the extent to which growth was to occur, bought up large parcels of land. These changes not only reduced the likelihood of disputes over land uses but also committed both the developers and the city to the long term planning and development.

Planning for the long term, however, required tools to guide growth. This need led to the second major principle influencing residential planning, the use of planning units. With this principle, the expansion of the city was no longer viewed as a gradual outward movement but as the development of defined areas or distinct units of land. In Calgary, the unit approach was not utilized in the gridiron pattern and only partially in the modified gridiron neighbourhoods. At the time these areas were subdivided, planning was based more on the lot and block approach. As the city expanded, though, and as larger undeveloped areas became available, planning tools such as the neighbourhood unit and later the sector concept, were introduced. Within each of these units, planners attempted to provide all of the usually required community facilities such as schools, shops, and parks. In other words, by using unit planning, planners were endeavouring to anticipate needs.

Provincial planning legislation and Central Mortgage and Housing Corporation are probably the two most influential outside influences on residential planning in Calgary. In the Subdivision and Transfer Regulations, basic standards were established to guide the planning of streets, housing, schools, and parks. Similarly, C.M.H.C. also had clearly defined goals, "... to promote the construction of new homes, the repair and modernization of existing houses and the improvement of housing and living conditions."[2] Frequent references in planning documents to these two sources indicate that they have had far-reaching effects particularly to encourage planners to take a long-term planning approach.

GOALS AND OBJECTIVES

The second step in the planning process is to identify goals and objectives. In Calgary, though, it is evident that no concerted effort was made to use this step. Several reasons can be suggested for this conclusion. First, although the planning director had stated in 1951 that residential planning would be based on the neighbourhood unit, it is quite likely that Calgary planners had only a limited understanding of the concept as outlined by Perry. In all of the research material looked at, no direct reference was ever made to Perry's six principles. Second, it is also quite possible that the decision-makers, the members of the Technical Planning Board were also not aware of Perry's principles. As a result, their decisions on residential development were guided primarily by provincial planning legislation, C.M.H.C. regulations and most importantly, by their own values and preferences. It may well be because of this lack of understanding of the goals and objectives of the neighbourhood unit concept that it was never fully applied in Calgary.

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[2] Government of Canada, National Housing Act, Ch. N-10, 1970.

The importance of values and preferences cannot be overemphasized. It is quite apparent that great value was and still is placed on the free enterprise system. With this philosphy, the open market is looked upon as one of the best planning guides. Market forces, for example, were heavily relied upon to determine the amount of commercial space along Northmount Drive and, even though the Technical Planning Board had expressed reservations that too much commercial space would be provided, it never-the-less approved most applications for commercial developments along the collector. The reliance on the free enterprise system was again illustrated in Fairview when two lots in the centre of the neighbourhood were rezoned from residential to commercial. In approving the rezonings, the Board stated that the land use change was entirely the responsibility of the developer. This statement implies that the Board suspected that land use conflicts would occur; it none-the-less approved the rezonings.

Extensive over-commercialization throughout the city also appears to have been due to a preference by planners for the free enterprise philosophy and the approval of two regional shopping centres in northwestern Calgary again illustrates this point of view. Although the size of the trade areas was mentioned when applications were first considered, a much more important concern was whether or not there were any commitments by major department stores to build. In approving the centres, the planning commission emphasized the importance of allowing for competition in the area. This position was taken even though it appears to have been contradictory to an earlier well-established policy of encouraging a strong CBD.

The policies established to guide commercial development in the Glenmore sector are also based on the same approach. Even though too much commercial space may be provided, it is the right of each developer, according to the planning commission, to have the opportunity of providing commercial facilities if he so desires.

The lack of clearly defined goals and objectives combined with the importance given to market demand is also reflected in the planning of land uses other than commercial. Consideration of a 20 acre high density housing development in 1965 in the northwestern section of the city is one example. Initially the planning commission had pointed out that high density housing at this location would overload school facilities. However, even though it was contrary to a previously established policy of encouraging higher density housing in or near the CBD, city council requested the planning commission to determine if the development could be made possible.

In all of these situations, the decision-makers seem to have been avoiding their public responsibility for sound land use management. Market demand overrode concern for the quality of the residential environment, and more desirable planning goals and objectives which may have been established, were ignored.

The lack of clearly defined goals and objectives is illustrated in other ways. The land use control system, for example, experienced many difficulties during the study period, the major reason being that the regulatory devices did not have clearly established objectives. In 1958 a zoning bylaw was passed even though a general plan had not yet been approved. Planning literature, though, emphasizes that zoning is more effective if based on goals specified in a general plan. Zoning, therefore, did not appear to have guided development during this period; rather, it seemed to have reflected it.

A further illustration of the influence of values and preferences was a noticeable favoring for new fashion. In 1948, for example, when comparing designs for Knob Hill, a member of the Town Planning Commission suggested a Radburn design and defended it as the latest trend in town planning. Similarly, one reason put forward in support of the first regional shopping centre application in 1952 was that it fitted a trend in North America towards regional shopping centres. In both instances, new fashion appears to have been favored without careful evaluation.

EVALUATION OF ALTERNATIVE COURSES OF ACTION

According to McLoughlin, the third step in the planning process is to evaluate alternative courses of action. Generally, though, this step was not taken in Calgary. This conclusion is quite understandable since the basis for identifying alternatives rests in the goals and objectives which need to be agreed upon as the starting point of a planning program. Since the goals and objectives of residential planning in Calgary were not clearly stated at the outset, consideration of alternatives was of little value. McLoughlin simply states: "Alternatives must reflect the goals sought: The means must reflect the ends."[3]

RE-EVALUATION

One major conclusion of this study is that no concerted effort appears to have been made to assess the effectiveness of the designs which were utilized. However, the change from neighbourhood unit scale to sector scale suggests that planners re-evaluated and found inadequacies with the neighbourhood unit concept. A larger issue, though, is, was the neighbourhood unit concept inadequate because of inherent difficulties or because of poor application? Since the goals and objectives of the concept were never clearly stated in Calgary, it is quite possible that the concept was misapplied. The neighbourhood street designs supports this conclusion. For example, residential areas having continuous collector streets such as Fairmount Drive which split neighbourhoods is contrary to Perry's principle of restricting through traffic.

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[3] J. Brian McLoughlin, Urban and Regional Planning: A Systems Approach, Faber and Faber, London, 1969, p. 234.

On the other hand, it can also be argued that inadequacies were inherent in the concept. Perry determined the size of a neighbourhood on the drawing area of an elementary school which was looked upon as the neighbourhood focal point. In contrast, the size of a sector is based on the drawing area of commercial functions and on the area served by other community facilities (swimming pools, athletic parks, and libraries). Thus, with the introduction of the sector, the focal point changed from the elementary school to the sector centre. This change could lead one to conclude that the neighbourhood unit concept is inherently deficient, however, since no careful re-evaluation of the neighbourhood unit concept occurred, this conclusion is tenuous.

Never-the-less, the use of larger planning units does indicate that the sector concept was thought to provide a more effective community service area than the smaller neighbourhood unit. It appears as though this change in planning approach was based in part on outside sources such as the town centre concept as suggested by Humphrey Carver and also on the experience gained by Calgary planners with the neighbourhood unit concept. Most important was the recognition that too much commercial space was provided in the neighbourhood unit. With this recognition, it could therefore be concluded that, at least an intuitive re-evaluation had occurred.

It must be emphasized that this study of the planning process is largely based on official planning doucments. The planning process, however, is exceedingly complex and a complete study would need to include in-depth interviews with planners engaged in the planning process, plus a careful analysis of politics and its relationship to planning. With these studies, it may be concluded that the real world planning process may never come close to any organized approach as outlined by McLoughlin. Furthermore, to discover whether the designs which have been implemented are working, consumer surveys are required. These suggestions open up wide areas for future research.

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